## R. Michael Young Professor and Chair, Division of Games Adjunct Professor, School of Computing, and Adjunct Professor, Department of Philosophy

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# **BIOGRAPHIC SUMMARY**

Michael Young is Professor and Chair of the Division of Games, an Adjunct Professor in the Kahlert School of Computing and an Adjunct Professor of Philosophy at the University of Utah in Salt Lake City, UT, where he also directs the Liquid Narrative research group. His work at in the Division of Games seeks to advance Utah Games' top-rated educational efforts in games and build on Utah Games' strengths to establish the program as a leader in games scholarship. Together with his students and research staff, his work in the Liquid Narrative group focuses on the development of computational models of interactive narrative with applications to computer games, educational and training systems and virtual environments. His work is grounded in computational approaches, but seeks to cross disciplinary boundaries, involving collaborators and concepts from cognitive psychology, linguistics, narrative theory, cinematography and other fields where human cognition and interaction are central. He is also involved in a number of inter-disciplinary activities and committees at the Division, College and University level. He is actively engaged in leadership activities with academic and scientific organizations worldwide and with games industry professional and trade organizations at the national, state and local levels.

Young's research looks primarily at new models of plans and planning and the use of these knowledge representation techniques to characterize aspects of narratives. He was among the first researchers to develop models of planning adapted for story generation and leveraged the well-defined nature of these models to design algorithms that adapt interactive story lines to user activity. He has shown close correlations between the planbased models he uses in story generation and the cognitive models of story comprehension developed by psychologists. Based on these correlations, he has developed approaches to story generation that target the creation of specific cognitive and emotional responses on the part of game players or story readers. His work has targeted the generation of story experiences that prompt suspense, surprise and predictive inferences about upcoming events in an unfolding story-based game. Building on his previous work in the area of computational linguistics, he has developed a generative model of 3D camera control. In this approach, the specification of shots and shot sequences for a camera that is filming action within a 3D environment is computed based on models of linguistic discourse structure. This work has application in the automatic generation of cinematic sequences for video game cut-scenes, pre-visualizations rendered for film makers and instructional videos or highlight reels of activity within a virtual environment. Young has applied the computational methods he has developed beyond entertainment contexts, building systems that effectively generate natural language discourse, instructional text, tools for intelligence analysis and computer-assisted scaffolding used in intelligent tutoring systems. The tools he has developed have been used by other researchers in projects involving the automatic generation of instructional text, intelligent tutoring systems and informative multi-media presentations.

Young has published more than 145 scientific papers in the venues including leading conferences and journals in computer games, artificial intelligence, computational linguistics, autonomous agents and intelligent user interfaces. He has served to co-found and build several of the leading conferences in the area of computer games research (the International Conference on Artificial Intelligence and Interactive Entertainment, the International Conference on the Foundations of Digital Games) and has served as program committee member or program or conference chair of more than 50 leading conferences across the areas of artificial intelligence, virtual worlds and computer games. He serves as vice-president and is a founding board member of the Society for the Advancement of the Science of Digital Games (SASDG), a scientific society leading the community of scholars and practitioners advancing games research. Moreover, he served as editor-in-chief for the *Journal of Game Development* and serves or has served as a member of the editorial board of the leading journals in the area of games and AI research, including *ACM Games: Research and Practice, ACM Transactions on Intelligent Interactive Systems, IEEE Transactions on Computational Intelligence and AI Games, IEEE Transactions on Games, the International* 

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Journal of Gaming and Computer-Mediated Simulations and Advances in Cognitive Systems. He has won a number of awards including a National Science Foundation Career Award and an IBM Faculty Award.

Young joined the University of Utah in May of 2016 after working for 16 years at North Carolina State University in Raleigh, NC. At NC State, Young was a professor of Computer Science and University Faculty Scholar. He is the only person in NCSU's history to win all three university-level awards for outstanding faculty (teaching, extension and engagement, research). He was a GlaxoSmithKline Faculty Fellow in Public Policy and Public Engagement in 2010 and his work with North Carolina games companies and state policy makers to strengthen the state's games ecosystem has been widely recognized. In 2010, his work with the North Carolina Department of Commerce and the state legislature contributed to the establishment of financial incentives in the state budget in support of the digital media industry.

In 2008, Young developed the NCSU Computer Science Department's undergraduate concentration in game development. Since that time, he worked to direct the concentration; this effort has led to the expansion of the program's course offerings, the addition of new tenure-stream faculty in the games concentration. and the inclusion of industry partners as lecturers, adjuncts and guest speakers. Since 2010, Princeton Review has rated NCSU's game development program as one of the top 25 in North America. In 2014, the program was ranked #4 in North American among public universities. In 2015, Young proposed and received approval for a new cluster hire effort at NCSU in the area of visual narrative. He served as co-director of the Visual Narrative cluster, part of the NCSU Chancellor's Faculty Excellence Program — a multi-year effort to strengthen NCSU's multi-disciplinary research capabilities. As co-director, he shared the direction for four faculty searches (computer science, electrical and computer engineering, art and design and history) and the creation of a new 9000 sq. ft research/ collaboration space on campus. The Visual Narrative initiative continues to serve as a focal point for narrative research in computational media, and supports both games research as well as interdisciplinary efforts in digital humanities/scholarship across the NC State campus.

At the University of Utah, Young worked for two years as the Deputy Director of the Entertainment Arts and Engineering Program, a world-class games education program rated in the top five world-wide by Princeton Review for the last 6 years. In January of 2018, Young became EAE's Director, assuming the role from EAE co-founder Bob Kessler, who had served as EAE's director since its creation in 2008. In 2023, Young led the transition of the Entertainment Arts and Engineering Program from teaching program to Division status (the equivalent of an academic department), and in 2023 Young became the Division's first Chair.

Young is an an Association for Computing Machinery (ACM) Distinguished Scientist and a senior member of both the Associate for the Advancement of Artificial Intelligence (AAAI) and the Institute for Electrical and Electronic Engineering (IEEE). In 2017, he was elected to the inaugural class of HEGVA Fellows by the Higher Education Video Game Alliance. He is a member of the International Game Developers' Association (IGDA), where he served for four years on the board of the North Carolina Triangle chapter. He is a founding board member of the Triangle Games Initiative, a trade organization promoting the NC Triangle games industry.

Young supervised 32 M.S. and Ph.D. students while at NC State University and 4 Ph.D. students at University of Utah. His research group, now located at University of Utah, is internationally known as a leading center for work on games research, especially in the area of interactive storytelling and AI in games. His group has developed algorithms that address issues in cinematic 3D camera control in virtual worlds, the automatic construction of coherent, rich and understandable story lines, cloud-based architectures for the intelligent control of game environments and models of adaptation of story lines in interactive narrative contexts. His students have continued their research past graduation as tenure-track faculty at leading universities (i.e., Georgia Tech, UC Santa Cruz and IT University Copenhagen), as lecturers and educators in institutions with strong games programs like Baylor University and UNC Charlotte, as senior scientists at research labs like USC's Institute for Creative Technologies and as technical directors at companies in the games industry (e.g., Emergent Game Technologies). His group has actively collaborated with many industrial and governmental organizations including the DOD Advanced Distributed Learning initiative. Epic Games, Microsoft, the National Security Agency, Virtual Heroes, Microsoft, and the Triangle Games Initiative. Within NC State University, he led the establishment of a core set of games scholars that grew from one in 2000 to seventeen faculty members and research staff across four colleges in 2016.

Young's research has been supported by Applied Research Associates, Epic Games, Facebook Research, NSF, NSA and several industrial partners, and he has served as a PI or Co-PI on more than 16 grants. Since 2000, Young has brought in over \$15.2M in sponsored research awards and gifts, including an NSF CAREER award.

# **RESEARCH INTERESTS**

Artificial intelligence techniques in virtual worlds like computer games. Planning and plan recognition, natural language generation, computer games. Computational models of interactive narrative, automatic 3D camera control, character dialog, story generation and presentation. The role of computer games in education, training, intelligence analysis, criminal investigation and other serious games contexts.

# **PROFESSIONAL EXPERIENCE**

May, 2016 to date: University of Utah, Salt Lake City, UT.

	July, 2023 to date:	Professor and Chair, Division of Games, University of Utah.
	July, 2020 to June, 2023:	Director, Entertainment Arts and Engineering Program, and Professor, Kahlert School of Computing, University of Utah.
	July, 2023 to date:	Adjunct Professor, Kahlert School of Computing, University of Utah.
	March, 2020 to date:	Adjunct Professor, Department of Philosophy, University of Utah.
	January, 2019 to June, 2020	Interim Director, Entertainment Arts and Engineering Program, and Professor, School of Computing, University of Utah.
	May, 2016 to date	Adjunct Professor of Computer Science, Department of Computer Science, North Carolina State University.
	May, 2016 to December, 2018:	Deputy Director, Entertainment Arts and Engineering Program, and Professor, School of Computing, University of Utah.
January, 1999 to May, 2016: North Carolina State University, Raleigh, NC.		
	August, 2012 to May, 2016	Professor, Department of Computer Science, North Carolina State University.
	May, 2006 to May 2012	Associate Professor, Department of ComputerScience, North Carolina State University.
	April 2005 to May, 2016	Program Faculty, North Carolina State University Multi-Disciplinary Studies Program in Science, Technology and Society.
	May 2005 to May, 2016	Affiliated Faculty, North Carolina State University College of Humanities and Social Sciences Program in Communication, Rhetoric, and Digital Media.
	January, 1999 to May, 2006	Assistant Professor, North Carolina State University, Department of Computer Science.

October 1997 to October 1998: Post-doctoral Fellow, Carnegie Mellon University Robotics Institute, Pittsburgh, PA.

July, 1991 to December, 1993: Technical Scientist, Price Waterhouse Technology Center, Menlo Park, CA.

April, 1987 to January, 1990: Technical Scientist, Rockwell Palo Alto Science Center, Palo Alto, CA.

October, 1986 to April, 1987: Computer Scientist, FMC Corporation Artificial Intelligence Center, San Jose, CA.

Summer, 1986: Software Development Engineer, Hewlett-Packard Laboratories - Computer Languages Laboratory, Palo Alto, CA.

July, 1984 to June, 1986: Software Development Engineer, Hewlett-Packard Knowledge Systems Laboratory, Cupertino, CA.

# EDUCATION

Ph.D. in Intelligent Systems, December 1997, University of Pittsburgh, Pittsburgh, PA.

MS in Computer Science, December, 1987, Stanford University, Stanford, CA.

BS in Computer Science, May 1984, California State University, Sacramento, Sacramento, CA.

AA, Hartnell College, Salinas, CA, June, 1981.

# **PROFESSIONAL SOCIETIES**

Distinguished Scientist, Association for Computing Machinery (ACM)

Senior Member, Association for the Advancement of Artificial Intelligence (AAAI)

Senior Member, Institute for Electrical and Electronic Engineering (IEEE)

HEVGA Fellow, Lifetime Member, Higher Education Video Game Alliance (HEVGA)

# HONORS

Best Student Paper Nomination (with first author Eric Lang), Nineteenth AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment, 2023.

Best Paper Nomination, International Conference on Interactive Digital Storytelling, December, 2018.

HEVGA Fellow (inaugural cohort), Higher Education Video Game Alliance, March, 2017.

Recipient, Outstanding Faculty Research Award, NC State Alumni Association, North Carolina State University, 2015.

University Faculty Scholar, NC State University, five year term from 2015 through 2019.

Winner, Student Best Paper Award (with Stephen Ware), Tenth AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment, 2014.

Distinguished Scientist, Association for Computing Machinery, 2013.

Senior Member, Association for the Advancement of Artificial Intelligence, 2013.

Recipient, NC State University Libraries Faculty Award, 2012.

Winner, Student Best Paper Award (with Stephen Ware and Rogelio Cardona-Rivera), Workshop on Computational Models of Narrative, 2012.

Recipient, GlaxoSmithKline Faculty Fellowship in Engagement and Public Policy, NCSU Institute for Emerging Issues, 2010.

Recipient, Outstanding Faculty Extension Award, NC State Alumni Association, North Carolina State University, 2009.

Promotion to the NC State University Academy of Outstanding Faculty Engaged in Extension, 2009 to present

Winner, Best Paper Award, International Conference on Interactive Digital Storytelling, 2008.

Recipient, IBM Faculty Award, 2007.

Recipient, Outstanding Faculty Teaching Award, NC State Alumni Association, North Carolina State University, 2006.

Promotion to the NC State University Academy of Outstanding Teachers, 2006 to present.

Recipient, National Science Foundation Early Career (CAREER) Award, 2001.

# SUPPORT FOR SPONSORED RESEARCH

Since his first academic position starting in January of 1999, Young has obtained a total of \$15,196,995 in support of his research, teaching and extension efforts (counting both sole-PI and joint PI awards and gifts).

CURRENT GRANTS

Total in this category: \$0

COMPLETED GRANTS

#### Total in this category: \$15,313,837

National Science Foundation, SCC-PG: Online Role-Playing Games for Improving Multi-Stakeholder Collaboration in Concurrent Disaster Response Planning 10/01/2021 - 9/30/2022 Role: Co-Principal Investigator Amount: \$149,247

Facebook Faculty Innovation Grant 9/15/2020 - 9/14/2021 Role: Principal Investigator Amount: \$50,000

Laboratory for Analytic Sciences Narrative Processing, Delivery Order 8 1/1/2018 - 12/31/2018 Subcontract through NC State University Role: Principal Investigator Amount: \$82,405 IARPA *PSYCHIC* 07/29/2016 - 02/12/2018 Subcontract through Charles River Analytics Role: Co-Principal Investigator Amount: \$46,396

Laboratory for Analytic Sciences Simulation-Based Interactive Systems 1/1/2017 - 12/31/2017 Subcontract through NC State University Role: Principal Investigator Amount: \$52,814

National Science Foundation, *HCC:Small:CollaborativeResearch:Integrating Cognitive and Computational Models of Narrative for Cinematic Generation* 8/01/13 - 7/31/17 Role: Principal Investigator Amount: \$229,637

Laboratory for Analytic Sciences Narrative Processing, Delivery Order 6 1/1/2016 - 12/31/2016 Role: Principal Investigator Amount: \$815,000

Laboratory for Analytic Sciences Narrative Processing, Delivery Order 5 5/15/2014 - 12/31/2015 Role: Principal Investigator Amount: \$805,295

Institute for Museum and Library Services, National Leadership Grant for Libraries Program ALICE: A model for sustaining technology-rich Adaptive Learning Spaces and Interactive Content Environments in Libraries and Museums, 1/01/2014-10/31/2015 Role: Principal Investigator Amount: \$345,093

National Science Foundation, Cyber-enabled Discovery and Innovation Program *CDI-Type II: IC-CRIME: Interdisciplinary Cyber-Enabled Crime Reconstruction through Innovative Methodology and Engagement* 1/01/09 - 2/28/15 Role: Co-Principal Investigator Amount: \$1,400,000

Laboratory for Analytic Sciences Narrative Processing, Delivery Order 3 5/15/14 - 5/15/15 Role: Principal Investigator Amount: \$764,022

Laboratory for Analytic Sciences Narrative Processing, Delivery Order 2 10/01/13 - 12/31/14 Role: Principal Investigator Amount: \$1,001,000 National Science Foundation, Human-Centered Computing Program HCC: Small: Plan-Based Models of Narrative Structure for Virtual Environments, 8/01/09 - 7/31/13 Role: Principal Investigator Amount: \$497,860

National Science Foundation, Research Experiences for Undergraduates Supplement Program *HCC: Small: Plan-Based Models of Narrative Structure for Virtual Environments*, 8/01/09 - 7/31/13 Role: Principal Investigator Amount: \$15,000

US Army Research Office, Multidisciplinary University Research Initiative (MURI) Program Human Centric Computer-aided Cyber Situation Awareness 9/01/09 - 8/31/14 Role: Co-Principal Investigator Amount: \$6,250,000

NCSU DELTA IDEA Program A Cloud-Based Tool for Machinima Generation in Instructional Contexts 9/01/09 - 8/31/10 Role: Principal Investigator Amount: \$8,000

National Science Foundation, Research Experiences for Undergraduates (Site) Program *REU: DesignTech* 8/1/2007 - 7/31/2009 Role: Principal Investigator Amount: \$268,000

National Science Foundation, Innovative Technology Experiences for Students and Teachers (ITEST) Program Integrating Affordable, Web-based Competitive Simulations into North Carolina's 6-12 Science Curriculum through a Sustainable Program of Teacher Leadership and Professional Development 8/1/2005 - 7/31/2009 Role: Co-Principal Investigator Amount: \$1,197,268

National Science Foundation, Robust Intelligence Program Creating Effective Task Descriptions from Action Plans 8/15/2004 - 7/31/2007 Role: Principal Investigator Amount: \$300,000

National Science Foundation, Research Experiences for Undergraduates Supplement Program Creating Effective Task Descriptions from Action Plans 8/15/2004 - 7/31/2007 Role: Principal Investigator Amount: \$15,000

National Science Foundation, CAREER Program *Plan-Based Integration of Control and Coherence in Intelligent Exploratory Environments* 3/15/01 - 2/28/06 Role: Co-Principal Investigator Amount: \$469,000

National Science Foundation, Research Experiences for Undergraduates Supplement Program

Plan-Based Integration of Control and Coherence in Intelligent Exploratory Environments 3/15/2001 - 2/28/2005 Role: Principal Investigator Amount: \$15,000

North Carolina State University Faculty Research and Development Program Combining Artificial Intelligence and Narrative Theory: Action Representations for Interactive Learning Environments 9/01/00 - 8/31/01 Role: Co-Principal Investigator Amount: \$22,500

#### GIFTS

## Total in this category: \$169,000

Donor: Facebook Research 1/2020 Amount: \$50,000

Donor: NVIDIA Corporation 2/2013 Amount: \$16,000 (in kind)

Donor: Triangle Game Initiative 6/2009 Amount: \$8,000

Donor: Microsoft Research University Relations 7/2007 Amount: \$100,000

Donor: IBM (Faculty Award, joint with George Rouskas) 8/2007 Amount: \$30,000

Donor: Epic Games 4/2004 Amount: \$15,000

# PUBLICATIONS

#### JOURNAL ARTICLES

- Justus Robertson and R. Michael Young, Perceptual Experience Management, in *IEEE Transactions on Games*, March, 2019, vol. 11, issue 1, pages 15-24.
- Amos-Binks, Adam, Spain, Randall and Young, R. Michael, Subjective Experience of Plan-based Intention Revision, in *Advances in Cognitive Systems*, 6 (2018) 1–18.
- Fendt, Matthew William and Young, R. Michael, Leveraging Intention Revision in Narrative Planning to Create Suspenseful Stories, in *IEEE Transactions on Computational Intelligence and AI in Games* vol. 9, issue 4, 381-392, 2017.

- Cardona-Rivera, Rogelio, Price, Thomason, Winer, David and Young, R. Michael, Question Answering in the Context of Stories Generated by Computers, in *Advances in Cognitive Systems*, 4, 227–246, 2016.
- Ware, Stephen and Young, R. Michael, Intentionality and Conflict in The Best Laid Plans Interactive Narrative Virtual Environment, to appear in the *IEEE Transactions on Computational Intelligence and Artificial Intelligence in Games*, 2016.
- Young, R. Michael, Ware, Stephen, Cassell, Bradley and Robertson, Justus, A Review of Plan-Based Approaches to the Generation of Story, Discourse and Interactivity in Narratives, in the journal *Sprache und Datenverarbeitung*, special issue on Computational Models of Narrative, volume 17, no. 1-2, pages 41-64. 2014.
- Niehaus, James and Young, R. Michael, Cognitive Models of Discourse Comprehension for Narrative Generation, in the journal *Literary and Linguistic Computing*, special issue on Computational Models of Narrative, 2014.
- Horswill, Ian, Montfort, Nick and Young, R. Michael, Computational Narrative and Games, in the *IEEE Transactions on Computational Intelligence and Artificial Intelligence in Games*, special issue on Computational Narrative and Games. pages 93 to 96, June, 2014.
- Cheong, Yun-gyung and Young, R. Michael, Suspenser: A Story Generation System for Suspense, in the journal *IEEE Transactions on Computational Intelligence and AI in Games*, May, 2014
- Bae, Byung-Chul and Young, R. Michael, A Computational Model of Narrative Generation for Surprise Arousal, in the journal *IEEE Transactions on Computational Intelligence and AI in Games*, pages 131-143, November, 2013.
- Ware, Stephen, Young, R. Michael, Harrison, Brent and Roberts, David, A computational model of narrative conflict at the fabula level, in the journal *IEEE Transactions on Computational Intelligence and AI in Games*, vol. 6, num. 3, pp. 271-288, 2013
- Riedl, Mark O. and Young, R. Michael, Narrative Generation: Balancing Plot and Character, in *the Journal* of *Artificial Intelligence Research*, vol. 39, pages 217-268, 2011.
- Thomas, Jim and Young, R. Michael, Annie: Automated Generation of Adaptive Learner Guidance For Fun Serious Games, in *IEEE Transactions on Learning Technologies*, vol 3, no. 4, pages 329 343, October-December, 2010.
- Jhala, Arnav and Young, R. Michael, Cinematic Visual Discourse: Representation, Generation, and Evaluation, in the journal *IEEE Transactions on Computational Intelligence and AI in Games*, vol. 2, no. 2, pages 69 94, June 2010.
- Harris, Justin and Young, R. Michael, Proactive Mediation in Plan-Based Narrative Environments, in the journal *IEEE Transactions on Computational Intelligence and AI in Games*, vol. 1, no. 3, pages 233-244, September 2009.
- Young, R. Michael, Story and Discourse: A Bipartite Model of Narrative Generation in Virtual Worlds, in Interaction Studies: Social Behaviour and Communication in Biological and Artificial Systems, Volume 8, Number 2, June 2007, pp. 177-208(32)
- Riedl, Mark and Young, R. Michael, A Planning Approach to Story Generation for History Education in International Journal of Continuing Education and Life-long Learning Special Issue on Virtual and Mixed Reality for New Training, Educational and Gaming Perspectives.

- Riedl, Mark, and Young, R. Michael. From Linear Story Generation to Branching Story Graphs, in the *IEEE Journal of Computer Graphics and Applications*, pages 23- 31, 2006.
- Riedl, Mark, and Young, R. Michael. Story Planning as Exploratory Creativity: Techniques for Expanding the Narrative Search Space, in the *Journal of New Generation Computing*, 24(3), May 2006.
- Young, R. Michael, Riedl, Mark, Branly, Mark, Jhala, Arnav, Martin, R.J. and Saretto, C.J., An architecture for integrating plan-based behavior generation with interactive game environments, in *The Journal of Game Development*, vol.1 issue 1, pages 51-70, March 2004.
- Young, R. Michael. Using Grice's Maxim Of Quantity To Select The Content Of Plan Descriptions. *Artificial Intelligence*, no. 115, 215-256, 1999.
- Button, Brian, R. Michael Young and Diane M. Ahart. A framework for troubleshooting asynchronous data communications links. In *Hewlett-Packard Journal*, 31(11):41-47, 1986.

#### EDITED PROCEEDINGS

- Oyarzun, David, Peinado, Federico, Young, R. Michael, Elezade, Ana and Medez, Gonzalo (eds). International Conference on Intelligent Digital Storytelling, ICIDS 2012, San Sebastian, Spain, November 2012, Proceedings (Lecture Notes in Computer Science / Lecture Notes in Artificial Intelligence), Springer, 2012.
- Young, R. Michael (ed), The Proceedings of the Fourth International Conference on the Foundations of Digital Games. ISBN 978-1-60558-437-9. Available in the ACM Digital Library. 2009.
- Gratch, Jonathan, Young, R. Michael, Aylett, Ruth and Ballin, Daniel (eds). Intelligent Virtual Agents: 6th International Conference, IVA 2006, Marina Del Rey, CA; USA, August 21-23, 2006, Proceedings (Lecture Notes in Computer Science / Lecture Notes in Artificial Intelligence), Springer, 2006.

BOOKS AND PARTS OF BOOKS

- Matthew J. Guzdial, Emily Short, Michael Treanor, R. Michael Young & Jichen Zhu (2018). What Is Machine Learning/Deep Learning? (pp. 101-103). Schloss Dagstuhl--Leibniz-Zentrum fuer Informatik. Book Chapter, Published, 03/29/2018.
- David Thue, Mirjam P. Eladhari, Joshua Allen McCoy, Mike Preuß, Spyridon Samothrakis, Emily Short, Anne Sullivan, Michael Treanor & R. Michael Young (2018). Backstory Generation. (pp. 118- 119). Schloss Dagstuhl--Leibniz-Zentrum fuer Informatik. Book Chapter, Published, 03/29/2018.
- Antonios Liapis, Elisabeth André, Sander C.J. Bakkes, Rafael Bidarra, Steve Dahl- skog, Mirjam P. Eladhari, Ana Paiva, Mike Preuß, Gillian Smith, Anne Sullivan, Tommy Thompson, David Thue, Georgios N. Yannakakis & R. Michael Young (2018). Mixed-media Game AI. (pp. 105-108). Schloss Dagstuhl--Leibniz-Zentrum fuer Informatik. Book Chapter, Published, 03/29/2018.
- Gillian Smith, Mirjam Palosaari Eladhari, Matthew J Guzdial, Emily Short, Adam M Smith, Anne Sullivan, Tommy Thompson, R Michael Young (2018), AI as Reflective Practice, Schloss Dagstuhl--Leibniz-Zentrum fuer Informatik. Book Chapter, Published, 03/29/2018.

- Cavazza, Marc, and Young R. Michael, section editors for section on Interactive Narrative: A Systems Approach, In Ryohei Nakatsu, Paolo Ciancarini and Matthias Rauterberg (eds.), *Handbook of Digital Games and Entertainment Technologies*. Springer Verlag, 2018.
- Cavazza, Marc, and Young R. Michael, Introduction to Interactive Narrative: A Systems Approach, In Ryohei Nakatsu, Paolo Ciancarini and Matthias Rauterberg (eds.), *Handbook of Digital Games and Entertainment Technologies*. Springer Verlag, 2018.
- Riedl, Mark, and Young R. Michael, The Importance of Narrative as an Affective Instructional Strategy, In Robert Sottilare, Arthur Graesser, Xiangen Hu, and Benjamin Goldberg (eds.), *Design Recommendations* for Adaptive Intelligent Tutoring Systems: Adaptive Instructional Strategies (Volume 2). Springer Verlag, 2018.
- Jhala, Arnav, and Young R. Michael, Intelligent Machinima Generation for Visual Storytelling, In Pedro Gonzales Calero (Ed.) *Artificial Intelligence for Computer Games*. Springer Verlag, 2011.
- Young, R. Michael. Cognitive and Computational Models in Interactive Narratives, in *Cognitive Systems: Human Cognitive Models in Systems Design*, Chris Forsythe, Michael L. Bernard & Timothy E. Goldsmith, editors, Lawrence Erlbaum, pages 213-235, 2006.
- Young, R. Michael. Internet Games, in *Practical Handbook of Internet Computing*, M. Singh, Ed. Pages 11-14, CRC Press, 2004.
- Young, R. Michael. The Co-Operative Contract in Interactive Entertainment, in *Socially Intelligent Agents*, Kerstin Dautenhahm, Alan Bond, Lola Canamero and Bruce Edmonds, Eds. Pages 229-234, Kluwer Academic Press, 2002.*Refereed Conference Presentations with Proceedings*

# Conference Papers

- Rogelio E. Cardona-Rivera, Arnav Jhala, Julie Porteous, R. Michael Young, The Story So Far on Narrative Planning, in the Proceedings of the 34th International Conference on Automated Planning and Scheduling, Banff, Alberta, Canada, 2024.
- Eric Lang and R. Michael Young, MultiStyle: Characterizing Multiplayer Cooperative Gameplay by Incorporating Distinct Player Playstyles in a Multi-Agent Planner, in the Proceedings of the AAAI Conference on AI and Interactive Digital Entertainment, Salt Lake City, UT, 2023.

#### (\*) Nominated for Best Student Paper.

- Rushit Sanghrajka and R. Michael Young, Evaluating Reader Comprehension of Plan-Based Stories Containing Failed Actions, in the Proceedings of the AAAI Conference on AI and Interactive Digital Entertainment, Pomona, CA, 2022.
- Rushit Sanghrajka, R. Michael Young, and Brandon Thorne, HeadSpace: Incorporating Action Failure and Character Beliefs into Narrative Planning, in the Proceedings of the AAAI Conference on AI and Interactive Digital Entertainment, Pomona, CA, 2022.
- Eric Lang and R. Michael Young, RPGPref: A Planning Heuristic that Uses Playstyle Preferences to Model Player Action and Choice, in the Proceedings of the AAAI Conference on AI and Interactive Digital Entertainment, Pomona, CA, 2022.
- J.J. Roberston, Rogelio Cardona-Rivera, R. Michael Young (2020), Invisible Dynamic Mechanic Adjustment in Virtual Reality Games, IEEE Conference on Artificial Intelligence and Virtual Reality. 2020.

- Brandon Thorne & David Winer, Camille Barot, R. Michael Young (2019). Firebolt: A System for Automated Low-Level Cinematic Narrative Realization. Proceedings of the International Conference on Interactive Digital Storytelling. 2019
- J. J. Robertson, A. Jhala and R. M. Young, Efficient Choice Enumeration for Narrative World Design, to appear in *Proceedings of the International Conference on the Foundations of Digital Games*, San Luis Obispo, CA, 2019.
- R. M. Young, "Science Considered Helpful (\*)," in *Proceedings of the International Conference on Interactive Digital Storytelling (ICIDS)*, pages 21-35, Dublin, Ireland, 2018.
- (\*) Nominated for ICIDS 2018 Best Paper.
- Amos-Binks, Spain, Randall, and R. M. Young, "Subjective Experience of Plan-based Intention Revision," in Proceedings of the International Conference on Advances in Cognitive Systems, 2018
- D. R. Winer and R. M. Young, "Merits of Hierarchical Story and Discourse Planning with Merged Languages," in *Proceedings of the International Conference on AI and Interactive Digital Entertainment*, 2017
- J. C. Bahamon and R. M. Young, "An Empirical Evaluation of a Generative Method for the Expression of Personality Traits through Action Choice," in Proceedings of the International Conference on AI and Interactive Digital Entertainment, 2017
- Winer, David, and Young, R. Michael, Discourse-driven narrative generation with bipartite planning, in International Natural Language Generation Conference, 2016.
- Robertson, Justus and Young, R. Michael, Automated Gameplay Generation from Declarative World Representations, in the International Conference on AI and Interactive Digital Entertainment, Santa Cruz, CA, 2015.
- Robertson, Justus and Young, R. Michael, Finding Schroedinger's Gun, in the International Conference on AI and Interactive Digital Entertainment, Raleigh, NC, 2014.
- Fendt, Matthew and Young, R. Michael, Adapting IRIS, a Non-Interactive Narrative Generation System, to an Interactive Text Adventure Game, in *Proceedings of the 27th International Conference of the Florida Artificial Intelligence Research Society* (FLAIRS2014). Pensacola Beach, FL, USA, 2014
- Cardona-Rivera, Rogelio, Robertson, Justus, Ware, Stephen Harrison, Brent, Roberts, David and Young, R.s Michael, Foreseeing Meaningful Choices. To appear in Proceedings of the 10th AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE-14), Raleigh, NC, USA, 2014.
- Ware, Stephen and Young, R. Michael, Glaive: A State-Space Narrative Planner Supporting Intentionality and Conflict (\*), in Proceedings of the 10th Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE2014). Raleigh, NC, USA, 2014.
- (\*) Winner of the AIIDE 2014 Best Student Paper Award.
- Rogelio E. Cardona-Rivera, and R. Michael Young; "A Cognitivist Theory of Affordances for Games," in Proceedings of the Digital Games Research Conference: DeFragging Game Studies (DiGRA2013). Atlanta, GA, USA, 2013
- Justus Robertson, and R. Michael Young; "Modeling Character Knowledge in Plan-Based Interactive Narrative to Extend Accommodative Mediation," in Proceedings of the 9th Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE2013). Boston, MA, USA, 2013

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- Ware, Stephen, Young, R. Michael, Harrison, Brent and Roberts, David, Four Quantitative Metrics Describing Narrative Conflict, in the Proceedings of the International Conference in Interactive Digital Storytelling, San Sebastian, Spain, 2012.
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- St. Amant, Robert and Young, R. Michael, "Interface agents in model world environments," in *AI Magazine*, special issue on interface agents, vol. 22, no. 3, pages 95-107, Fall 2001.
- St. Amant, Robert, and Young, R. Michael, Introductory AI educational resources on the web, *Intelligence*, the ACM SIGART newsletter, vol. 12 issue number 4, pages 15-17, Winter 2001.

- St. Amant, Robert, and Young, R. Michael, Common Lisp resources on the web, *Intelligence*, the ACM SIGART newsletter, vol. 12 issue number 3, pages 21-23, Fall 2001.
- St. Amant, Robert, and Young, R. Michael, Artificial Intelligence and interactive entertainment, *Intelligence*, the ACM SIGART newsletter, vol. 12 issue number 2, pages 17-19, Summer, 2001.
- St. Amant, Robert, and Young, R. Michael, AI planning resources on the web, *Intelligence*, the ACM SIGART newsletter, vol. 12 issue number 1, pages 17-19, Spring, 2001.

Refereed Abstracts

Young, R. Michael. Towards a Computational Model of Suspense. Presented at Interactive Frictions: The Conference Produced at the Pressure Point Between Theory and Practice: An International Conference on Interactive Narrative, University of California, Los Angeles, CA, Tuesday, June 3, 1999.

#### WORKSHOP REPORTS

- Dan Frost, Mateas, Michael, Young, R. Michael Young, Zordan, Victor, Advanced Game Technologies, in Scacchi, W. (ed), The Future of research in Computer Games and Virtual World Technologies: workshop Report, Technical Report UCI-ISR-12-8, Institute for Software Research, University of California, Irvine, Irvine, CA, July 2012.
- Michael Mateas, Elizabeth André, Ruth Aylett, Mirjam P. Eladhari, Richard Evans, Ana Paiva, Mike Preuss, and R. Michael Young. Believable Agents and Social Simulations. Artificial and Computational Intelligence in Games (Dagstuhl Seminar 12191), Dagstuhl Reports, ISSN 2192-5283, volume 2, number 5, page 54. edited by Simon M. Lucas and Michael Mateas and Mike Preuss and Pieter Spronck and Julian Togelius, 2012.
- Young, R. Michael, Ruth S. Aylett, Paolo Burelli, Mirjam P. Eladhari, Richard Evans, and Ana Paiva, Computational Narrative. Artificial and Computational Intelligence in Games (Dagstuhl Seminar 12191), Dagstuhl Reports, ISSN 2192-5283, volume 2, number 5, page 64. edited by Simon M. Lucas and Michael Mateas and Mike Preuss and Pieter Spronck and Julian Togelius, 2012.

# PRESENTATIONS

#### Keynote Addresses

- *Intentional reasoning as a building block for narrative in computational media,* presented at the International Conference on the Foundations of Digital Games, Asilomar, CA, June, 2015
- *Cracks in the Fourth Wall: Digging into a Humanistic Phenomenon Using Computational Models*, presented at the AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE) 2010, Stanford, CA, October 2010.
- *The Representational Challenges of Fictional Worlds,* presented at the IJCAI 2009 Workshop on Logic and the Simulation of Interaction and Reasoning 2: Interactive Logic and Computer Games, held at the International Joint Conference on Artificial Intelligence, Los Angeles, CA, August, 2009
- Liquid Narrative: Building Computational Models of Storytelling for Game Worlds, IBERAMIA, Lisbon, Portugal, October, 2008

- Computer-Supported Story Construction for Narrative Learning Environments: Lessons Needed, Workshop on Standards for Advanced Learning Environments, University of Memphis, November, 2005
- Service-oriented architectures for intelligent control of games, keynote address at the Second Australasian Conference on Interactive Entertainment, Sydney, Australia, November 22-25, 2005.
- *Grand Theft Academic: Stealing from Six Disciplines to Create Interactive Narratives*, opening keynote address at the Fifth International Conference for Computer Games, Artificial Intelligence, Design and Education 2004, Reading, UK, November 8, 2004.

# PLENARY ADDRESSES

- Artificial Intelligence and Interactive Entertainment, plenary address given at the 2001 AAAI Spring Symposia Series, Stanford University, March 27, 2001.
- Artificial Intelligence and Interactive Entertainment, plenary address given at the 2000 AAAI Spring Symposia Series, Stanford University, March 14, 2000.

## INVITED TALKS

## **Invited Conference Presentations**

- "Enabling Games Research Through User-Centered Library Design," presented at the Fourth Designing Libraries for the 21st Century Conference, Raleigh, NC, September 20, 2015.
- "How the Hunt Engages Faculty for Research, or How I Learned to Stop Worrying and Love the Library," presented at the Second Designing Libraries for the 21st Century Conference, Raleigh, NC, October 8, 2013.
- "In Support of Cinematic Creativity," presented at the 6th Mexican International Colloquium in Computational Creativity, Mexico City, October 20, 2011.
- "Interactive Narrative: Computation and Cognition," presented at the 6th Mexican International Colloquium in Computational Creativity, Mexico City, October 21, 2011.
- 'IC-CRIME: a support tool for virtual collaboration during crime scene investigation," presented at Unite 2011, the Unity3D Annual Conference, September 30, 2011.
- "Procedural Everywhere," presented at the NSF Workshop on the Future of Research in Computer Games and Virtual Worlds, UC Irvine, Irvine CA, September 23, 2010.
- "Computational Narrative," presented at the Dagstuhl Workshop on Computational Intelligence and Artificial Intelligence in Games, Schloss Dagstuhl, Germany, May 2012.
- "Transforming Narratives" (with Katherine Hayles, Duke University) presented at the UNC Chapel Hill CHAT Festival, February 16, 2010.
- "A value proposition for industry/academic collaboration" presented at the Montreal International Games Summit, November 28, 2007.
- "Cognitive and Computational Models in Interactive Narrative," at the International Conference on Narrative and Interactive Learning Environments, Edinburgh, UK, August 2006.

- "Integrating research systems and coursework with commercial game engines," at the Microsoft Academic Days on Gaming Conference, Cozumel, Mexico, January 19, 2006.
- "Storytelling as Art, Science and Technology: Artificial Intelligence Techniques for Narrative in Games," at the 2005 Game Writers' Conference, Austin, TX, October 2005.
- "Connecting Gameplay to AI," Advanced Distributed Learning Co-Lab Demofest, Orlando, November, 2005.
- "Managing User Interaction in Structured Narrative Environments," Session on Immersive Environments, Plugfest 9 and the Workshop on Shareable Content Object Reference Model (SCORM) Sequencing and Navigation, sponsored by the US Advanced Distributed Learning Initiative and the National Institute of Standards and Technology (NIST), February 25, 2005. Travel supported by US Institute for Defense Analysis.
- "Grand Theft Academic: stealing from six disciplines to build a computational model of interactive narrative," Game-on 2004, International Conference on Computer Games: Artificial Intelligence, Design and Education, Reading, UK, November 8-10, 2004.
- "Grand Theft Academic: stealing from six disciplines to build a computational model of interactive narrative," Third International Conference on Narrative and Interactive Learning Environments, Edinburgh, UK, August 11, 2004.
- "Storytelling as Art, Science and Technology: Artificial Intelligence Techniques for Narrative in Games," at the 2005 Game Writers' Conference, Austin, TX, October 2005.
- "Integrating research systems and coursework with commercial game engines," at the Microsoft Academic Days on Gaming Conference, Cozumel, Mexico, January 19, 2006.

#### **Distinguished Speaker Series**

- "Towards a Computational Science of Narrative" Sungkyunkwan University Department of Artificial Intelligence Graduate School Distinguished Speaker Seminar. December 18. 2020.
- "Generating and Managing Interactive Narratives" Ashby Dialogues on the Future of Narrative, University of North Carolina at Greensboro, Greensboro, NC. October 3, 2002.
- "Coherence and Control: The Inevitable Battleground of Interactive Narratives" Distinguished Speaker Series, Center for Information Society Studies, NC State University, Raleigh, NC. April 6, 2001.
- "Coherence and Control: The Inevitable Battleground of Interactive Narratives" The Interactive Arena Speaker Series, Canadian Film Centre, Toronto, Canada. December 4, 2000.

#### **Invited Workshop Presentations**

- "The Logic of Narrative Interaction," at the Workshop on Logic and the Simulation of Interaction and Reasoning 2, IJCAI 2009, Pasadena, CA.
- "Procedural Everywhere," presented at the NSF Workshop on the Future of Research in Computer Games and Virtual Worlds, UC Irvine, Irvine CA, September 23, 2010.
- "More Cowbell: Approaching fun from a scientific perspective" presented at the AAAI Workshop on AI and Fun, AAAI 2010, Atlanta, GA, July 2010.

- "Using a Service-Oriented Architecture to Control Narrative-Based 3D Game Engines," Workshop on Intelligent Tutoring Systems, University of Memphis, Memphis, TN, July 27, 2007.
- "Story and Discourse: Planning and Natural Language Generation in the Creation of Engaging and Interactive Stories in Computer Games", Workshop on Cognitive Systems: Human Cognitive Models in System Design, hosted by Sandia National Laboratories and the University of New Mexico, Santa Fe, NM, June 30, 2003.
- "How can computational systems create liquid narratives?" First International Workshop on Narrative and Interactive Learning Environments, Edinburgh, UK, August, 2000.
- "Cognitive and Computational Models in Interactive Narrative," at the International Conference on Narrative and Interactive Learning Environments, Edinburgh, UK, August 2006.
- "Managing User Interaction in Structured Narrative Environments," Session on Immersive Environments, *Plugfest 9 and the Workshop on Shareable Content Object Reference Model (SCORM) Sequencing and Navigation,* sponsored by the US Advanced Distributed Learning Initiative and the National Institute of Standards and Technology (NIST), February 25, 2005.
- "Connecting Gameplay to AI," Advanced Distributed Learning Co-Lab Demofest, Orlando, November, 2005.

# Invited University, College and Departmental Colloquia and Seminars Outside of Current Institution

- "Cracks in the Fourth Wall: Games, Narrative and a Science of Computational Media," University of Utah, March, 2016.
- "Cracks in the Fourth Wall: Games, Narrative and a Science of Computational Media," University of Colorado, Boulder, March, 2016.
- "Cracks in the Fourth Wall: Games, Narrative and a Science of Computational Media," University of Wisconsin, Madison, March 23, 2015.
- "Cracks in the Fourth Wall: Games, Narrative and a Science of Computational Media," University of California, Santa Cruz, March 7, 2015.
- "Cracks in the Fourth Wall: Games, Narrative and a Science of Computational Media," Florida Polytechnic University, Lakeland, FL, February 23, 2015.
- "Building a science of narrative: Computational contributions to the study of stories and their telling," Lehigh University Joint Seminar in Computer Science and Cognitive Science, Bethlehem, PA, October 28, 2013.
- "Liquid Narrative: The Importance of Story," University of North Carolina at Chapel Hill, Games for Learning Initiative, Chapel Hill, NC, January 14, 2009.
- "Leveraging Narrative Constructs in the Automatic Generation of Interactive Experiences" at the Auto-Tutor Research Group, University of Memphis Institute for Intelligent Systems, Memphis, TN, March 11, 2007.
- "Leveraging Narrative Constructs in the Automatic Generation of Interactive Experiences" IT University, Copenhagen, May 9, 2007.
- "Leveraging narrative concepts in the automatic construction of interactive experiences" at the Visualization Technology Group Friday Forum, Duke University, Durham, NC, February 11, 2007.

- "Cognitive and Computational Models in Interactive Narrative," at the University of Edinburgh Human Communication Research Centre, Edinburgh, UK, December 2006.
- "Cognitive and Computational Models in Interactive Narrative," at the Heriot-Watt University Department of Informatics, Edinburgh, UK, December 2006.
- "Cognitive and Computational Models in Interactive Narrative," at the University of California, Santa Cruz Department of Computer Science, Santa Cruz, CA, November 2006.
- "Factoring Interactive Narrative Research: Story, Discourse and Interactivity," University of Southern California Institute for Creative Technologies, Marina del Rey, CA, June 7, 2005.
- "Interactive Narratives and Computer Games" Meredith College Mathematics and Computer Science Club, Raleigh, NC. October 21, 2002.
- "Capturing Narrative in Computational Models," at the Department of Computer Science, UC Santa Cruz, Santa Cruz, CA, September 2006.
- "Factoring Interactive Narrative Research: Story, Discourse and Interactivity," University of Southern California Institute for Creative Technologies, Marina del Rey, CA, June 7, 2005.
- North Carolina Renaissance Computing Institute, *Research on Interactive Narrative in Games*, Research Triangle Park, NC, June 8, 2006.
- University of North Carolina at Chapel Hill, Department of Computer Science, *Interactive Narrative in Games and Virtual Environments*, Chapel Hill, NC, June 7, 2006.
- Ohio State University, Department of Computer Science, *Story and Discourse and The Liquid Narrative Project*, Columbus, Ohio, April 4, 2001.
- Virginia Tech, Department of Computer Science, *The Role of Story and Discourse in Virtual Worlds Interaction*, Falls Church, Virginia, March 19, 2001.
- Georgia Institute of Technology, College of Computing, *Story and Discourse: Creating and Maintaining Coherent Engaging Interactions in Virtual Worlds,* Atlanta, GA, May 4, 2000
- University of Southern California, Information Sciences Institute, Using Grice's Maxim of Quantity to Select the Content of Plan Descriptions Marina Del Rey, CA, June, 1999
- Microsoft Corporation, Microsoft Research, *Generating Concise Descriptions for Complex Activities*, Redmond, WA, April, 1997
- Carnegie Mellon University, Robotics Institute, *Generating Concise Descriptions for Complex Activities*, Pittsburgh, PA, May 1997.
- Massachusetts Institute of Technology, Program for Media Arts and Sciences (Media Lab), *When Less is More, More or Less: Generating Effective Task-Related Discourse* Cambridge, MA, March, 1997.

#### Presentations at University of Utah

"The BSG as an Engineering Discipline" Introduction to Engineering course, University of Utah, Salt Lake City, UT, Spring 2021.

- "The Science and Engineering of Games: Partnerships with Entertainment Arts and Engineering" Division Conference, Pediatric Critical Care Data Coordinating Center, University of Utah, Salt Lake City, UT, March 5, 2021.
- "The BSG as an Engineering Discipline" Introduction to Engineering course, University of Utah, Salt Lake City, UT, November 10, 2020.
- "Now You Too Can Play Videogames for Homework" University presentation to Crimson Parents Steering Committee, Salt Lake City, UT, April 26, 2019.
- "An Overview of EAE" University presentation to visiting Korean students and teachers, University of Utah Global Learning Initiative, Salt Lake City, UT, 2018.

## Presentations at North Carolina State University

- "Envisioning the Future of Computational Media" NC State University presentation to Digital Humanities Lightning Rod Wrap Up day, Raleigh, NC, September 26, 2014.
- "Innovation in Games Research" NC State University presentation to US Office of Naval Research Scientific Advisory Board, Raleigh, NC, November 12, 2013.
- "The academic life of games" NC State University Fabulous Faculty speaker series, Raleigh, NC, November 11, 2011
- "Is Learning a Serious Game?" NC State University Teaching and Learning with Technology Roundtable, Raleigh, NC, February 4, 2009
- "Computer Games and Online Instruction," NC State University Multi-Media Users' Group, February 10, 2005.
- "The NCSU Center for Digital Entertainment," International Game Developers' Association North Carolina Triangle Chapter Meeting, April 20, 2004.
- "Coherence and Control: The Inevitable Battleground of Interactive Narratives" Distinguished Speaker Series, Center for Information Society Studies, NC State University, Raleigh, NC. April 6, 2001.
- "Computer Models of Narrative: Making more engaging interfaces to information technology" Spring Speaker Series, Center for Information Society Studies, NC State University, April 4, 2001.
- "Computer Models of Narrative: Making more engaging interfaces to information technology" Spring Speaker Series, Center for Information Society Studies, NC State University, April 4, 2001.

## **Other Invited Presentations**

- "The NCSU Center for Digital Entertainment," International Game Developers' Association North Carolina Triangle Chapter Meeting, April 20, 2004.
- "Interactive Narrative and Artificial Intelligence," Trapeze Media Group, Toronto, Ontario, Canada, December 5, 2000.

## INVITED CONFERENCE PARTICIPATION

Invited attendee, Microsoft Research Faculty Summit, Redmond, WA. Invited and attended 2003 - 2008.

# **RESEARCH SUPERVISION**

RESEARCH SCIENTISTS SUPERVISED

Camille Barot, Ph.D, 2014 to 2016.

Development Staff Supervised

Scott Carpenter, senior software development engineer, August, 2015 to August, 2016.

Jeff Ligon, Ph.D, senior software development engineer, April 2014 to March 2015.

Trey Overman, project manager, March 2015 to December 2016.

Donnie Wrights, artist/designer, July, 2014 to May 2016.

POST-DOCTORAL FELLOWS SUPERVISED

Jim Thomas, Ph.D., 2011 - 2012.

DOCTORAL DISSERTATIONS DIRECTED

- Rushit Sanghrajka. *Generation and Authoring of Belief-based Failed Actions in Narrative Planning,* Graduated Fall 2023. Currently Teaching Assistant Professor, Khoury College of Computer Sciences, Northeastern University.
- Rogelio Cardona-Rivera (co-advised with David Roberts). *A Model of Interactive Narrative Affordances*, Graduated Fall 2019. Currently Assistant Professor, School of Computing and Entertainment Arts and Engineering Program, University of Utah.
- Kara Cassell. Dynamic Generation of Narrative Discourse that Communicates Character Decision Making, Graduated Spring 2019. Currently Research Software Engineer, Department of Computer Science, NC State University.
- Adam Amos-Binks (co-advised with David Roberts). *Intention Revision of Plan-Based Agents for Narrative Generation*. graduated Fall 2018. Currently Senior Artificial Intelligence Researcher, Applied Research Associates.
- David Winer. Automated film direction for computer-generated discourse: planning, scheduling, and execution. School of Computing, University of Utah. graduated Spring 2018. Currently Senior Applied Machine Learning Engineer, EvolutionIQ.
- Justus Robertson. *Perceptual Experience Management*. graduated Summer 2017. Currently Assistant Professor, School of Interactive Games and Media, Rochester Institute of Technology.

- Julio Bahamon, A Choice-Based Computational Model of Character Personality for Planning-based Narrative Generation, graduated Summer 2016. Currently Associate Teaching Professor, Computer Science, University of North Carolina, Charlotte.
- Stephen Ware, Automated Scaffolding of Task-Based Learning in Non-Linear Game Environments, graduated Summer 2014. Currently Assistant Professor, Computer Science, University of Kentucky.
- Matthew Fendt, *Leveraging Intention Revision in Narrative Planning to Create Suspenseful Stories*, graduated Summer 2014. Currently Senior Lecturer, Computer Science, Baylor University.
- Jim Thomas, Automated Scaffolding of Task-Based Learning in Non-Linear Game Environments, graduated Spring 2011. Currently Senior Scientist, SoarTech Inc.
- Arnav Jhala, *Cinematic Discourse Generation*, graduated Spring 2009. Currently Associate Professor, NC State University Department of Computer Science.
- Byung-Chul Bae, *A Computational Model of Narrative Generation for Surprise Arousal*, graduated Summer 2009. Currently a visiting scientist, IT University of Copenhagen.
- James Niehaus, *Cognitive Models of Discourse Generation for Narrative Comprehension*, graduated Summer 2009. Currently a staff scientist, Charles River Associates.
- Yun-Gyoung Cheong, A Computational Model of Narrative Generation for Suspense, graduated Spring 2007. Currently Post-doctoral Fellow, IT University Copenhagen.
- Brad Mott (co-advised with James Lester), *Decision-Theoretic Narrative Planning for Guided Exploratory Learning Environments*, graduated Spring 2006. Currently Research Scientist, NC State University Department of Computer Science.
- Wei Zhang (co-advised with James Lester), graduated Spring 2005. Currently staff, University of Nebraska at Lincoln.
- Mark Riedl, *Narrative Planning: Balancing Plot and Character*, graduated Fall 2004. Currently Associate Professor, Georgia Tech, Department of Computer Science.

## DOCTORAL DISSERTATIONS BEING DIRECTED

Eric Lang. Dissertation topic: Collaborative intelligent tools to support design in the context of interactive virtual worlds

EXTERNAL EVALUATOR, PH.D. ADVANCEMENT

- Constantine Diamantis Ph.D. Advancement Application reviewer, University of Teesside, Teeside, UK, September 2004.
- James Skorupski, Ph.D. Advancement to candidacy external committee member, Department of Computer Science, UC Santa Cruz. December 2010.
- Ann Sullivan, Ph.D. Advancement to candidacy external committee member, Department of Computer Science, UC Santa Cruz. July 2009.

- Gillian Smith, Ph.D. Advancement to candidacy external committee member, Department of Computer Science, UC Santa Cruz. July 2009.
- Christophe Lino, Ph.D. external committee member, University of Rennes 1, Rennes, France, October 2013.
- Peter Mawhorter, Advancement to candidacy external committee member, Department of Computer Science, UC Santa Cruz. December 2013.
- Margaret Sarlej, external committee member, Department of Computer Science and Engineering, University of New South Wales, Australia, July, 2014.
- Hsu-Yin Helen Wu, Ph.D. external committee member, University of Rennes 1, Rennes, France, October 2016.

MASTERS THESES DIRECTED

- Mike Dominguez, Automatic Identification and Generation of Highlight Cinematics in Games, graduated Spring 2010
- Pat Cash, Boyer: A Planning Tool for Bridging the Gap Between Declarative and Procedural Domains, graduated Summer 2008
- Vikram Kumaran, Plan Recognition as Candidate Space Search, graduated Summer 2006
- Byung-Chul Bae, A Computational Model of Narrative Generation for Suspense, graduated Spring 2006
- Thomas Vernieri, A Web Services Approach to Generating and Using Plans in Configurable Execution Environments, graduated Spring 2006
- Justin Harris, Proactive Mediation in Plan-Based Narrative Environments, graduated Fall 2005
- David Christian, Strategic Deception in Agents, graduated Summer 2004
- Ashwin Ramachandran, Intelligent Context-Sensitive Help for Dynamic User and Environment Contexts, graduated Fall 2004
- Arnav Jhala, An Intelligence Cinematic Camera Planning System, graduated Fall 2003
- Sirish Somanchi, A Computational Model of Suspense in Virtual Worlds, graduated Summer 2003
- Shannon Garlick, The Inclusion of Reference Seeds in Generated Dialogue, graduated Summer 2001
- C.J. Saretto, *Mediating User Interaction In Narrative-Structured Virtual Environments*, graduated Summer 2001

# TEACHING

## ACADEMIC PROGRAM DEVELOPMENT

## PROGRAMS AND COURSES DEVELOPED AT UNIVERSITY OF UTAH

## **New Programs Developed**

Co-creator (with Departments of English and Film and Media Arts) of proposal for certificate in Digital Narrative, currently under review.

Contributed to definition and administrative approval of EAE Bachelor of Science in Games. Program approved Fall 2017. Degree is now the tenth largest major on campus.

#### **New Courses Developed**

Complete re-design of EAE 6900-012, Game AI.

Designed CS6xxx, Cognition and Computation in the Context of Interactive Narrative

PROGRAMS AND COURSES DEVELOPED AT NORTH CAROLINA STATE UNIVERSITY

#### **New Programs Developed**

Designed and directed Computer Science undergraduate concentration in Game Development. Curriculum approved Spring, 2008. Program directed Spring 2008 to date.

- In March of 2014, Princeton Review ranked NCSU's Game Development Program 22nd in North America and 4th among public institutions.
- In March of 2013, Princeton Review ranked NCSU's Game Development Program 15th in North America.
- In March, 2011 and again in March of 2012, Princeton Review ranked NCSU's Game Development Program in the top 30 in North America.
- Between 2005 and 2013, NCSU graduates were placed at the following companies working in the games space: #C Technologies, Activate3D, America's Army, Electronic Arts, Emergent Game Technologies, Epic Games, Icarus Studios, Joystick Labs, Lockheed-Martin Virtual Worlds Lab, Mid-Carolina Media, Mighty Rabbit Studios, Red Storm Entertainment, RTI International, Spark Plug Games, Vicious Cycle Software, Virtual Heroes, Inc. and Zipper Interactive.
- Between 2005 and 2011, NCSU graduates created four start-ups in the games space: Activate3D (Raleigh, NC), Mighty Rabbit Studios (Durham, NC), Psionix Studios (San Diego, CA), Sparkplug Games (Cary, NC). All companies are currently active.

# **New Courses Developed**

*Foundations of Interactive Game Design* (CSC281). CSC281 serves as a university-wide elective for the NCSU undergraduate General Education Program interdisciplinary perspectives category.

Computer Game Design and Development (CSC481) Advanced Game Development Projects (CSC482) Design and Development of Virtual Worlds (CSC495D) (developed with Patrick Fitzgerald from the Department of Art and Design) Research Projects in Intelligent Interactive Entertainment (CSC495G) Computational Models of Interactive Narrative (CSC582)

# COURSES TAUGHT AT UNIVERSITY OF UTAH

#### **Graduate Courses**

EAE6xxx Advanced Game Development Projects 2 (one semester)
EAE6xxx Advanced Game Development Projects 1 (one semester)
EAE6xxx Game AI (one semester)
CS6xxx Cognition and Computation in the Context of Interactive Narrative (one semester)
EAE6xxx Independent Study (five students)

# **Undergraduate Courses**

EAE3660 Interactive Machinima (seven semesters)

#### COURSES TAUGHT AT NORTH CAROLINA STATE UNIVERSITY

## **Undergraduate Courses**

CSC495 Research Projects in Intelligent Interactive Entertainment (five semesters)

- CSC482 Advanced Computer Game Projects (regularly taught once per year since 2005)
- CSC481 Computer Game Design and Development (eight semesters)
- CSC411 Introduction to Artificial Intelligence (four semesters)
- CSC281 (was CSC295) *Foundations of Interactive Game Design* (regularly taught once per year since 2009)
- CSC114 Introduction to Computing in C++ (one semester) Courses Taught At North Carolina State University

# **Graduate Courses**

CSC591 Current Techniques in Intelligent Multi-Media (one semester)

CSC591 Artificial Intelligence and Virtual Worlds (three semesters)

CSC591 Computational Models of Discourse Processing (one semester)

CSC582 Computational Models of Interactive Narrative (regularly teach once per year since 2004)

CSC520 Artificial Intelligence I (one semester)

Courses Taught Elsewhere

- Duke University Film Studies/Information Systems and Information Sciences Programs, *Foundations of Interactive Game Design* (2010)
- East China University of Science and Technology, Shanghai, China, Foundations of Interactive Game Design (2010)

GRANTS AND GIFTS IN SUPPORT OF TEACHING

# Grants

North Carolina State University Center for Teaching and Learning New Course Development Program *Building Virtual Worlds* Role: Co-Principal Investigator Amount: \$3,000,

NCSU Center for Teaching and Learning Travel Program Game Developers Conference 2002 1/15/2002 - 4/30/2002 Role: Principal Investigator Amount: \$1,600

# Gifts

Donor: Microsoft Research University Relations 7/2002 Amount: \$8,200 (in kind)

Donor: NVIDIA Corporation 7/2007 Amount: \$2,000 (in kind)

Donor: AMD Corporation 7/2007 Amount: \$750 (in kind)

#### **Undergraduate Research Symposia**

Tramposh, Adam and Young, R. Michael, "Design Space for Interactive Stories," August, 2008.

- Munilla, Samuel and Young, R. Michael, "The Development of Computational Models of Interactive Narrative in Virtual Worlds", August 3, 2006.
- Lee, Michael and Young, R. Michael, "*Technical analysis of input devices for game platforms*," November, 2005.
- Downy, Luke and Young, R. Michael, "An iPhone client for 3D Cinematic Renders," November, 2005.
- Burke, David and Young, R. Michael, "The Development of Computational Models of Interactive Narrative in Virtual Worlds", April 22, 2004.
- Vaughan, Kevin and Young, R. Michael, "Selection Technique for desktop virtual reality in a target-rich dynamic environment," August 13, 2003.

Saretto, CJ and Young, R. Michael, "Mediation in Mimesis Liquid Narratives," April 10, 2001.

# **Undergraduate Honors Theses Supervised**

Austin Anderson, graduated Spring 2019.
Honors thesis title: Unmasking the Player: Extended Fiction in Game Design
Stephen Roller, graduated Spring 2010.
Honors thesis title: Interfaces for Story Navigation in 3D Virtual Worlds
Current affiliation: Ph.D. student, computer science, University of Texas, Austin
Joe France, graduated Fall 2008.
Honors thesis title: Influencing Game Players' Choices through Design Manipulation
Current affiliation: serious game developer, Orlando, FL
Samuel Munilla, graduated Spring 2007
Honors thesis title: Longboard: Towards an Intelligent Storyboarding Tool
Current affiliation: MS student, NCSU CSC
Michael Lee, graduated Spring 2006
Honors thesis title: Technical analysis of input devices for game platforms
Current affiliation: game developer, Research Triangle Park, NC
Clay Lehman, graduated Spring 2005
Honors thesis title: Persistent Session Management in Web Services for Planning Systems
Current affiliation: unknown
Eric Pelkey, graduated Spring 2004
Honors thesis title: Advisable Narrative Planning with the Crossbow Planner
Current affiliation: unknown
Will Emigh, graduated Spring 2003
Honors thesis title: Empirically Relating Comprehension and Plan Reasoning
Current affiliation: unknown

Milind Kulkarni, graduated Spring 2002
Honors thesis title: A component-based architecture for intelligent narrative generation Current affiliation: Assistant Professor, Purdue University, IN
RJ Martin, graduated Fall 2002
Honors thesis title: Controlling plan execution in the Mimesis architecture Current affiliation: Software Engineer, America's Army, Seattle, WA
Daniel Amerson, graduated Spring 2001
Honors thesis title: 3D Camera control using plan generation Current affiliation: Co-founder and Chief Technical Officer, Activate3D, Raleigh, NC
C.J. Saretto, graduated Spring 2001
Honors thesis title: Mediation in Mimesis Liquid Narratives Current affiliation: Senior Project Manager, Microsoft Corporation, Redmond, WA
Shannon Garlick, graduated Spring 2000
Honors thesis title: A seeding technique for discourse planners Current affiliation: Software Engineer, Intel Corporation, Portland, OR

#### Park Scholar Mentoring

Daniel Amerson, graduated Spring 2001

Current affiliation: Co-founder and Chief Technical Officer, Activate3D, Raleigh, NC

# Undergraduates Supported from National Science Foundation Research Experiences for Undergraduate Awards (including both site and supplemental awards)

Youssef Biaz (Summer 2015) Kacey Eichen (Summer 2015) Stephanie Yang (Summer 2014) Mary Beth Kery (Summer 2013) Christian Stith (Summer 2013) Andrea Aldana (Fall 2012) Eric Lang (Spring, Summer, Fall 2012) Zack Litzsinger (Spring, Summer, Fall 2012, Fall 2013) Evan Kochuk (Spring 2011) Courtney Harrison (Spring 2011) Yaphet Marlborough (Summer 2009) Stephen Roller (Summer, 2009) Jack Snyder (Summer 2009) Luke Downey (Summer, Fall 2008) Adam Tramposh (Summer, 2008) Rhys Harwell (Spring 2007) Smith Newnam (Spring 2007) Tim Bennet (Spring 2007)

Jeff Bailey (Spring 2007) Joseph France (Spring 2007) Ryan Gerleve (Fall 2007) Smith Newnam (Fall 2006, Spring 2007) Sam Munilla (Summer 2006, Fall 2006) David Tredwell (Fall 2005, Summer 2006, Fall 2006, Spring 2007) Ricky Patel (Fall 2006) Tim Bennet (Fall 2006, Spring 2007) Matt Baker (Summer 2005, Fall 2005) Nick Darnell (Summer 2005, Fall 2005) Michael K. Lee (Spring 2005) Craig Allen (Fall 2004) Joshua Stutts (Spring, Summer 2004) Jamaal Wesley (Spring 2004) Eric Pelkey (Fall 2003, Spring 2004) Brian Shiver (Fall 2003)

# **Faculty Advisor for Student Organizations**

NCSU Game Developers Club (2004 to 2006, 2009 to 2013).

# SERVICE

#### EDITORIAL SERVICE

- International Advisory Board Member, International Journal of Gaming and Computer-Mediated Simulations (IJGCMS), May, 2014 to date
- Associate Editor, ACM Games: Research and Practice, November 2021 to date.
- Associate Editor, IEEE Transactions on Games, December, 2018 to January, 2023.
- Associate Editor, ACM Transactions on Interactive Intelligent Systems, March, 2012 to February, 2014.
- Associate Editor, Journal of Virtual Reality and Broadcasting, December, 2007 to March, 2015.
- Editorial Board Member, Advances in Cognitive Systems, June, 2012 to December, 2015.
- Associate Editor, *IEEE Transactions on Computational Intelligence and Artificial Intelligence in Games*, October, 2008 to December, 2018.

Editor-in-Chief, Journal of Game Development, 2007, 2008.

CONFERENCE CREATION

- Co-founder, International Conference on the Foundations of Digital Games, 2005. This conference is now in its 18th year.
- Co-founder, AAAI International Conference on Artificial Intelligence and Interactive Digital Entertainment, 2004. This conference is now in its 19th year.

# CONFERENCE CHAIRS

# General Chair

General Chair, International Conference on Interactive Digital Entertainment, Snowbird, UT (2019).

General Co-Chair, Workshop on Intelligence Camera Control and Editing (WICED), at the International Conference on the Foundations of Digital Games, Raleigh, NC. (2012)

Co-Founder, Conference Chair and Finance Chair, Conference on AI and Interactive Digital Entertainment (2005)

#### Program Chair

Program Co-Chair, 2012 International Conference on Intelligent Digital Storytelling (2012)

Program Committee Co-Chair, IEEE Symposium on Computational Intelligence and Games (2010)

Co-Founder and Program Chair, 2009 International Conference on the Foundations of Digital Games (2009)

Program Chair, 2008 Conference on Game Development in Computer Science Education (2007)

Senior/Primary Organizer

Senior Program Committee Member, International Conference on Intelligent Virtual Agents, Kyoto, Japan. (2021)

Senior Program Committee Member, International Conference on Intelligent Virtual Agents, Glasgow, UK. (2020)

Senior Program Committee Member (Socially Interactive Agents Track), International Conference on Intelligent Virtual Agents, Stockholm, Sweden. (2018)

Senior Program Committee Member, International Conference on Intelligent Virtual Agents, Delft, the Netherlands. (2015)

Senior Program Committee Member, International Conference on Intelligent Virtual Agents, Boston, MA. (2014)

Co-Organizer, First Workshop on Diversity in Games Research, AIIDE 2014, Raleigh, NC, October, 2014.

Co-Organizer, First Workshop on Research in Cognitive-based Approaches to Intelligent Interactive Digital Entertainment (RCAIIDE), AIIDE 2014, Raleigh, NC, October, 2014.

Co-Organizer, Second Workshop on Games and Natural Language Processing, International Conference on Intelligent Digital Storytelling, Istanbul, Turkey, November, 2013.

Senior Program Committee Member, International Conference on Intelligent Virtual Agents, Edinburgh, UK. (2013)

Senior Program Committee Member, International Conference on Intelligent Virtual Agents, Santa Cruz, CA. (2012)

Organizing Committee Member, 2006 International Conference on Intelligent Virtual Agents (2006)

Organizing Committee Member, 2004 International Conference on Technologies for Interactive Digital Storytelling and Entertainment (2004).

#### Local Arrangements

Local Arrangements Chair, AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE), October, 2023.

Local Arrangements Chair, AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE), October, 2017.

Local Arrangements Chair, AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE), October, 2014.

Local Arrangements Chair, 2012 International Conference on the Foundations of Digital Games (2012)

Local Arrangements Chair, 2009 International Conference on Intelligent Users Interfaces (2009)

#### Track Chair

Track Chair (Artificial Intelligence), Program Committee, Foundations of Digital Games Conference, Chania, Greece, 2013.

# Tutorials Chair

Tutorials Chair, Second Conference on Artificial Intelligence and Interactive Digital Entertainment (2006)

# PROGRAM COMMITTEES

- Program Committee, AAAI Fall Symposium on Cognitive Systems for Anticipatory Thinking, October, 2023.
- Program Committee, IEEE Conference on Artificial Intelligence and Virtual Reality, online event, 2020.
- Program Committee, Workshop on Envisioning Next Generation Personalized Game Experiences, at the International Conference on the Foundations of Digital Games, San Luis Obispo, CA, 2019.
- Program Committee, IEEE Conference on Artificial Intelligence and Virtual Reality, Taichung, Taiwan, 2018.
- Program Committee, International Conference on Artificial Intelligence and Interactive Digital Entertainment, Doctoral Consortium Snowbird, UT, 2017.
- Program Committee Member, Games Technologies Track, International Conference on the Foundations of Digital Games (FDG), 2017

- Program Committee Member, Cognitive Systems Track, Annual Conference of the Association for the Advancement of Artificial Intelligence (AAAI), 2017
- Program Committee Member, Eurographics Workshop on Intelligent Camera Control, Cinematics and Film Editing, Paris, France, 2017.
- Program Committee Member, Eurographics Workshop on Intelligent Camera Control, Cinematics and Film Editing, Zurich, Switzerland, 2015.
- Program Committee Member, Computational Models of Narrative Workshop, Canada, 2014.
- Program Committee Member, Advances in Cognitive Systems, Palo Alto, CA. 2013.
- Program Committee Member, AAAI International Conference on Artificial Intelligence and Interactive Digital Entertainment. 2013.
- Program Committee Member, Annual Conference of the Digital Games Research Association (DiGRA 2013), Atlanta, GA., 2013.
- Program Committee Member, Workshop on Computational Models of Narrative, part of the Cognitive Science Annual Conference, Hamburg, Germany. 2013.
- Program Committee, Conference on Advances in Cognitive Systems, November 2012.
- Program Committee, Fifth Workshop on Intelligent Narrative Technologies, Stanford, CA, October 2012.
- Program Committee, International Conference on Artificial Intelligence and Interactive Digital Entertainment, Doctoral Consortium Stanford, CA, 2012.
- Program Committee, International Conference on Artificial Intelligence and Interactive Digital Entertainment, Stanford, CA, 2012.
- Program Committee Member, Workshop on Computational Models of Narrative, part of the 2012 Language Resources and Evaluation Conference (LREC'2012) Istanbul, Turkey, 2012.
- Program Committee Member, International Conference on the Foundations of Digital Games Doctoral Consortium. (2012)
- Program Committee Member, International Conference on Autonomous Agents and Multi-Agent Systems. (2012)
- Program Committee Member, Fourth Workshop on Intelligent Narrative Technologies (2011)
- Program Committee Member, AAAI Fall Symposium on Advances in Cognitive Systems (2011)
- Program Committee Member, Association for the Advancement of Artificial Intelligence, Video Competition (2011)
- Program Committee Member, International Conference on Autonomous Agents and Multi-Agent Systems, Senior Program Committee (2011)
- Program Committee Member, Workshop on Procedural Content Generation for Games, International Conference on Foundations of Digital Games (2011)
- Program Committee Member, International Conference on the Foundations of Digital Games (2010)
- Program Committee Member, International Conference on Intelligent User Interfaces (2010)

- Program Committee Member, Workshop on Procedural Content Generation for Games, International Conference on Foundations of Digital Games (2010)
- Program Committee Member, International Conference on Artificial Intelligence and Interactive Digital Entertainment (2009)
- Program Committee Member, International Conference on E-Learning and Games (2009)
- Program Committee Member, International Conference on Interactive Digital Storytelling (2009)
- Program Committee Member, Workshop on Agent-Based Systems for Human Learning and Entertainment, at the International Conference on Autonomous Agents and Multi-Agent Systems (2009)
- Program Committee Member, International Workshop on Interactive Digital Storytelling for Competence Development, in conjunction with the International Joint Conference on Computer Vision, Imaging and Computer Graphics Theory and Applications- VISIGRAPP 2009.
- Senior Program Committee Member, International Conference on Autonomous Agents and Multi-Agent Systems (2008, 2011, 2012)
- Program Committee Member, National Conference of the American Association for Artificial Intelligence (AAAI), Special Track on New Scientific and Technical Advances in Research (2007)
- Program Committee Member, Australasian Conference on Interactive Entertainment (2007)
- Program Committee Member, International Joint Conference on Artificial Intelligence (2007)
- Program Committee Member, International Conference on Entertainment Computing Scientific Program Committee (2006)
- Program Committee Member, International Conference on Autonomous Agents and Multi-Agent Systems, Program Committee (2006)
- Program Committee Member, Australasian Conference on Interactive Entertainment (2006)
- Program Committee Member, International Conference on Narrative and Interactive Learning Environments (2006)
- Program Committee Member, Workshop on AI Planning for Computer Games and Synthetic Characters, International Conference on AI and Planning Systems (2006)
- Program Committee Member, National Conference of the American Association for Artificial Intelligence (AAAI), Special Track on New Scientific and Technical Advances in Research (2006)
- Program Committee Member, International Conference on Autonomous Agents and Multi-Agent Systems, Program Committee (2005)
- Program Committee Member, ACM Conference on Advances in Computer Entertainment (2005)
- Program Committee Member, Australasian Conference on Interactive Entertainment (2005)
- Program Committee Member, International Conference on Entertainment Computing Scientific Program Committee (2005)
- Program Committee Member, Workshop on Narrative Learning Environments, International Conference on Artificial Intelligence in Education (2005)

Program Committee Member, International Conference on Intelligent Virtual Agents (2005)

- Program Committee Member, Workshop on Games and Interactive Learning Environments, International Conference on Artificial Intelligence in Education (2005)
- Program Committee Member, Florida AI Research Conference (FLAIRS), special track on User Modeling and HCI Approaches in Natural Language Generation, 2004
- Program Committee Member, International Conference on Autonomous Agents and Multi-Agent Systems, Program Committee (2004)
- Program Committee Member, International Conference on Technologies for Interactive Digital Storytelling and Entertainment (2004)
- Program Committee Member, International Conference on Narrative and Interactive Learning Environments (2004)
- Program Committee Member, National Conference of the American Association for Artificial Intelligence (2004)
- Program Committee Member, International Conference on Intelligent Virtual Agents (2003)
- Scientific Committee Member, International Conference on Virtual Storytelling (2003)
- Scientific Committee Member, International Conference on Virtual Storytelling (2001)
- Program Committee Member, International Conference on Intelligent User Interfaces (2001)
- Program Committee Member, Autonomous Agents (2001)
- Program Committee Member, International Conference on Modeling and Using Context (2001)
- Program Committee Member, National Conference of the American Association for Artificial Intelligence (2000)
- Program Committee Member, National Conference of the American Association for Artificial Intelligence (1998)
- Program and Organizing Committee Member, AAAI Spring Symposium on Computational Implicature: Computational Approaches to Interpreting and Generating Conversational Implicature (1996)
- Student Session Program Committee Member, Association for Computational Linguistics Annual Conference (1995)

# FUNDING PANELS

United States National Science Foundation, CISE Panel Member, 2017, 2020

Austrian Academy of Sciences Doctoral Fellowship, 2013

United States Army Research Laboratory's Army Research Office seedling proposal, 2012.

French Agence Nationale du Rechearche, French national research agency, 2012.

European Commission, 2009.

United Kingdom Engineering and Physical Sciences Research Council, 2008, 2007, 2005, 2004.

Canadian Research Council, 2007.

Singapore National Research Foundation, Program on Interactive Digital Media, 2007.

South Carolina Experimental Program to Stimulate Competitive Research & Institutional Development Award (EPSCOR IDEA), 2006.

North Carolina Biotechnology Center, proposal reviewer, 2005.

United States National Science Foundation, 2004, 2002, 2001, 2000.

PROGRAM AND CENTER DIRECTION AND MAJOR PROGRAMATIC ACTIVITIES

Chair, Division of Games, University of Utah. July, 2023 to date.

Responsibilities include a) management of all current educational, service and research efforts, b) lead initiatives for expansion of division activities and establishment of program/division administrative structure.

Director, Entertainment Arts and Engineering Program, University of Utah. July, 2020 to June, 2023.

Responsibilities include a) management of all current educational, service and research efforts, b) lead initiatives for expansion of program activities and establishment of program/division administrative structure.

Interim Director, Entertainment Arts and Engineering Program, University of Utah. January, 2019 to June, 2020.

Responsibilities include a) management of all current educational, service and research efforts, b) lead initiatives for expansion of program activities and establishment of program/division administrative structure.

Deputy Director, Entertainment Arts and Engineering Program, University of Utah. May 2016 to December, 2018.

Responsibilities include a) assist program director in management of all current educational, service and research efforts, b) lead initiatives for expansion of program activities and establishment of program/division administrative structure.

Founder and co-director, The NCSU Digital Games Research Center (DGRC). http://dgrc.ncsu.edu. May 2008 to 2011. Executive director, 2011 to date.

Responsibilities include a) formation of multi-disciplinary, multi-college research center, design of center bylaws and management of center establishment within NCSU and UNC System procedures, b) provide primary point of contact with games industry collaborators and with state and federal policy-makers, c) integrate faculty to collaborate on large-scale research efforts, both pre- and post-award.

Founder and co-director, The NCSU Visual Narrative Initiative: http://visualnarrative.ncsu.edu. June 2014 to date.

Responsibilities include a) formation of multi-disciplinary cluster-hire initiative, supported by the NCSU Chancellor's Faculty Excellence Program, to bring four new hires focused on visual narrative to NCSU, b) to build and provision a new 9000 sq. ft. research lab and teaching facility shared between

#### Advisory Boards and Organizational Activities

Member, Board of Advisors, Workshop on Intelligent Narrative Technologies. (2013 to date).

- Member, Board of Advisors, Generalized Intelligent Framework for Tutoring (GIFT), a joint project of the US Army Research Laboratory HRED, the Advanced Distributed Learning Center for Intelligent Tutoring Systems Research & Development (ADL CITSRD) and the University of Memphis. (2013 to date).
- Member, Board of Advisors, AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE), (2010 to date).
- Member, Board of Advisors, International Game Developers Association (IGDA) Triangle North Carolina Chapter (2003 to 2014).
- Co-Founder and member, Board of Directors and Research Director, Triangle Game Initiative, May 2008 to 2016.
- Co-Founder, Vice-President and Member, Board of Directors, The Society for the Advancement of the Science of Digital Games, October, 2008 to date.
- Member, Board of Advisors, Wake Technical Community College Games and Simulation Degree Program, 2006 to 2016.
- Member, Board of Advisors, Central Piedmont Community College Games and Simulation Degree Program, 2006 to 2016.

# FUNDING PANELS AND REVIEWS

US National Science Foundation, CISE Panel Review, 2020

US National Science Foundation, CISE Panel Review, 2017

Microsoft Research Faculty Fellowship Program Review Board, 2012

Agence Nationale du Rechearche (France) proposal reviewer (2012)

European Commission proposal reviewer (2009)

Engineering and Physical Sciences Research Council (UK) proposal reviewer (2008)

Engineering and Physical Sciences Research Council (UK) proposal reviewer (2007)

Singapore National Research Foundation, Program on Interactive Digital Media, proposal reviewer (2007)

Canadian Research Council proposal reviewer (2007)

South Carolina Experimental Program to Stimulate Competitive Research & Institutional Development Award (EPSCOR IDEA), proposal reviewer (2006)

North Carolina Biotechnology Center, proposal reviewer (2005)

Engineering and Physical Sciences Research Council (UK) proposal reviewer (2005)

Engineering and Physical Sciences Research Council (UK) proposal reviewer (2004) National Science Foundation, program panel member (2004) National Science Foundation, program panel member (2002) National Science Foundation, program panel member (2001) Engineering and Physical Sciences Research Council (UK) proposal reviewer (2000) National Science Foundation, program panel member (2000)

# INTER-UNIVERSITY COLLABORATION

Member, Ad Hoc Exploratory Committee on the Research Triangle Humanities Collaborative, National Humanities Center, Spring 2012 to 2016.

#### Reviewing

### Journal reviewing

ACM Computers and Entertainment (2011) Journal of Intelligent Information Systems (2009) IEEE Transactions on Learning Technologies (2009) Journal of Intelligent Information Systems (2008) Communications of the ACM (2008) IEEE Spectrum (2008) Journal of Artificial Intelligence Research (2008) The Journal of Artificial Intelligence in Education (2007) The Journal of Artificial Intelligence in Education (2006) The Computer Journal: The Journal of the British Computer Society (2005) Artificial Intelligence (2004) Journal of Game Development (2004) Virtual Reality (2004) International Journal of Continuing Education and Life Long Learning (2003) Journal of Artificial Intelligence Research (2003) Journal of Artificial Intelligence Research (2000) Computational Linguistics (1996) **Conference** reviewing

IEEE Artificial Intelligence and Virtual Reality (2018) CHI PLAY (2018) SIGGRAPH (2011) CHI Conference on Human Factors in Computing Systems (2005) CHI Conference on Human Factors in Computing Systems (2004) IEEE International Conference on Advanced Learning Technologies (2004) CHI Conference on Human Factors in Computing Systems (2003) International Joint Conference on Artificial Intelligence (2003) Graphics Interface (2000) Brazilian Conference on Graphics and Interfaces (SIBGRAPI) (2000) SIGGRAPH Courses Program (2000) International Workshop on Agent Theories, Architectures and Languages (1998) IFCIS Conference on Cooperative Information Systems (CoopIS'98) (1998) International Conference on Artificial Intelligence (1995)

#### BOOK PROPOSAL REVIEWING

- Reviewer, Springer, book on Disney's storytelling process across media from film to digital games (2011).
- Reviewer, John Wiley and Sons, book on game development project management (2007).
- Reviewer, John Wiley and Sons, book on artificial intelligence and interactive digital entertainment (2005).
- Reviewer, Elsevier Focal Press, book on constructing game-based learning environments (2005).
- Reviewer, Thomson Course Technology, book on cross-platform computer game development (2005).

#### INTERNATIONAL STANDARDS COMMITTEES

- IFIP Specialist Group on Entertainment Computing working group in Interactive Storytelling, August 2004 to date.
- Working Group for Goal-Oriented Action Planning, International Game Developers' Association Artificial Intelligence Interface Standards Committee, January 2003 to June 2005.

#### Scientific Magazine Service

Column co-editor (with R. St. Amant), *Links*, in ACM SIGART quarterly magazine *Intelligence*. (November, 2000 to May 2002).

#### DOCTORAL CONSORTIUM MENTORING

One on one mentor, Doctoral Consortium at the International Conference on Artificial Intelligence and Interactive Digital Entertainment, Stanford, CA, October, 2012.

EXTERNAL UNIVERSITY SERVICE

- Member, External Review Committee, Computational Media Department External Review, Baskin College of Engineering, UC Santa Cruz, Santa Cruz, CA, (2019)
- Member, Ad Hoc Exploratory Committee on the Research Triangle Humanities Collaborative, led by National Humanities Center, participation from NCSU, UNC-CH and Duke. Spring 2012 to 2016.
- Member, External Review Committee, Faculty Position in Game Development, IT University, Copenhagen (2008)
- Member, External Review Committee, Faculty Position in Game Development, IT University, Copenhagen (2007)

## UNIVERSITY OF UTAH SERVICE

#### SERVICE TO THE UNIVERSITY

- University Office of Global Engagement Strategic Planning Steering Committee (Partnerships, Networks & Locations Working Group), July 2023 to date
- University DATASET Advisory Board, January 2023 to date.
- University Faculty Data Steering Committee, August 2021 to June 2023.
- University Committee on Long Term Child Care, February 2021 to October, 2021.
- Graduate School Internal Review Committee member, Asian Studies Program Internal Review, January 2020 to July 2020.
- University of Utah Search Committee Member for Director, Scientific Computing and Imaging Institute, October 2019 to July, 2020.
- University of Utah Interdisciplinary Computing Building Feasibility Study Committee, November, 2019 to September, 2021.

# SERVICE TO THE COLLEGE OF ENGINEERING

College of Engineering Diversity Committee member, October 2020 to June 2024.

College of Engineering Diversity Committee Sub-Committee on ASEE Bronze-Level Certification, August, 2022 to December, 2022

SERVICE TO THE SCHOOL OF COMPUTING

School of Computing Curriculum Committee member, July 2019 to August, 2022.

- School of Computing Informal Re-appointment, Promotion and Tenure Review Committee member, September, 2020 to January, 2021.
- School of Computing Faculty Search Committee member (HCC representative), November 2018 to June 2019.
- School of Computing Executive Council member, May 2016 to June 30, 2020.
- School of Computing Gemstone Faculty Search Committee member, November 2016 to June 2017.
- School of Computing Re-appointment, Promotion and Tenure Committee member (including two subcommittees), August 2019 to October, 2019.
- School of Computing Re-appointment, Promotion and Tenure Committee member, August 2016 to October, 2016.
- School of Computing Re-appointment, Promotion and Tenure Committee member, August 2017 to October, 2017.
- School of Computing Re-appointment, Promotion and Tenure Committee member, April 2019 (new hire tenure review).
- School of Computing Machine Learning Faculty Search Committee member, January 2018 to DATE.
- School of Computing Faculty Search Committee member (human-centered computing), November 2018 to April, 2019.
- SERVICE TO THE ENTERTAINMENT ARTS AND ENGINEERING PROGRAM/DIVISION OF GAMES

Division of Games of Graduate Study, January 2019 to June 2023.

Entertainment Arts and Engineering Program Director of Graduate Study, January 2019 to June 2023.

Entertainment Arts and Engineering Program Executive Council member, May 2016 to December, 2018.

NORTH CAROLINA STATE UNIVERSITY SERVICE

Co-chair, Chancellor's Faculty Excellence Program, Visual Narrative Initiative Co-director, 2015 to 2016.

Co-chair, Chancellor's Faculty Excellence Program Faculty Search, Digital Transformation of Education Cluster, 2012 to 2015.

Member, University Task Force on Digital Humanities, Fall 2013 to Spring 2016.

Member, Computer Science Department Graduate Programs Oversight Committee, Fall 2012 to Spring 2016.

- Designer and Lead, NCSU College of Engineering summer camp "Game Maker Girls," first held in July, 2012 and held each subsequent summer to 2016.
- Search Committee lead, Adaptive Game Technologies position, NCSU Chancellor's Faculty Excellence cluster hire in Digital Transformation of Education, Spring 2012 to Spring 2016.
- NC State University Professional Science Masters Council, 2011 to Spring 2016.
- Host, Engineering Summer Camp Video Game Development Day, June 2011.
- Member, Hunt Library Technology Advisory Board, Summer 2011 to date.
- Member, College of Engineering College Leadership Survey Committee, Fall 2011.
- Search committee head, Computer Science faculty position in computer games research, Fall 2010, Spring 2011.
- Presentation to College of Engineering Faculty, Games Research Overview, Engineering College faculty meeting, September, 2010.
- Presentation to NC State Board of Trustees, Games Research Overview, September, 2010.
- GlaxoSmithKline Faculty Fellow in Public Policy and Public Engagement, Institute for Emerging Issues, NC State University, 2010.
- Search committee member, Computer Science faculty position in multi-agent systems, Fall 2009, Spring 2010.
- Advisory Council Member, NCSU Multi-Disciplinary Studies Program in Science, Technology and Society (1999 2004)
- Advisory Council Member, NCSU Center for Information Society Studies (1999 2004)
- Presenter, College of Engineering Park Scholar Finalist Weekend, February 16. 2007.
- Author, white paper proposing the NCSU Campus Computer Game Initiative. This paper, drafted at the request of the Vice-Provost for Information Technology, describes the integration of managed NCSU IT resources and on-campus residential computing with student PC-based gaming (2006).

#### DEPARTMENTAL SERVICE

- Chair, Computer Science Department Faculty Recruiting Committee, Visual Narrative and Computer Games (2015 to 2016)
- Chair, Computer Science Department Faculty Recruiting Committee, Computer Games (2014 to 2015)
- Chair, Computer Science Department Faculty Recruiting Committee, Adaptive Games Technologies, part of the CFEP Digital Transformation of Education cluster (2012 to 2015)
- Member, Computer Science Department Faculty Recruiting Committee, Intelligent Tutoring Systems (2012 to 2013)

Member, Graduate Program Oversight Committee (2012)

Member, Accreditation Committee, CSC 116 (2010)

Member, Accreditation Committee, CSC481 (2010)

Chair, Computer Science Department Faculty Recruiting Committee, Computer Game Development (2010)
Chair, Computer Science Department Faculty Recruiting Committee, Computer Game Development (2009)
Chair, Computer Science Department Faculty Recruiting Committee, Computer Game Development (2008)
Member, Computer Science Department Faculty Recruiting Committee, AI (2007)
Member, Computer Science Department Faculty Recruiting Committee, Agents (2007)
Member, Computer Science Department Graduate Admissions and Recruiting Committee (2006)
Member, Computer Science Department Graduate Admissions and Recruiting Committee (2005)
Member, Computer Science Department Graduate Admissions and Recruiting Committee (2004)
Member, Computer Science Department Accreditation Committee (2004)
Park Scholar Program Student Advisor (2004)
Director, Computer Science Department Undergraduate Honors Program (2003)
Presenter, CSC/ECE Groundbreaking Ceremony (2003)
Park Scholar Program Student Advisor (2003)
Director, Computer Science Department Undergraduate Honors Program (2002)
Park Scholar Program Student Advisor (2002)
Director, Computer Science Department Undergraduate Honors Program (2001)
Park Scholar Program Student Advisor (2001)
Director, Computer Science Department Undergraduate Honors Program (2000)
Park Scholar Program Student Advisor (2000)
Director, Computer Science Department Undergraduate Honors Program (1999)

# EXTERNAL ENGAGEMENT

# ENGAGEMENT-RELATED GRANTS AND HONORS

- Recipient, GlaxoSmithKline Faculty Fellowship in Engagement and Public Policy, NCSU Institute for Emerging Issues, 2010.
- Recipient, Economic Development Cluster Award, NCSU Office of the Vice-Chancellor for Extension, Engagement and Economic Development. Grant for \$40,000 for use in the marketing of NCSU's efforts in serious games research and education and to build relationships with the North Carolina games industry (2008)

# EXTERNAL WORK FOR PAY

Director of Research, Vizuron Entertainment, Raleigh, NC. 2010-2011.

### ECONOMIC DEVELOPMENT ACTIVITIES

- Panelist, Forum on Local Economy: The North Carolina Games Industry, Leadership Raleigh (Raleigh Chamber of Commerce) (2013).
- Participant, Governor's Luncheon on the North Carolina Interactive Digital Media Industry, Governor's Mansion, Raleigh, NC (2012).
- Panelist, Games Industry Roundtable, North Carolina Department of Commerce (2011)
- Co-organizer (with entire Triangle Game Initiative Board of Directors/Officers), 2009 Triangle Game Conference, Raleigh Convention Center, Raleigh, NC. (2009 to date)
- Co-organizer and moderator, 2008 Wake County Economic Development Forum: Serious Games, Sponsored by Wake County's Office of Economic Development and the NCSU Office of Extension, Engagement and Economic Development (EEED). NC State's Friday Institute for Educational Innovation, Wednesday, May 21st, 2008.
- NCSU Digital Games Research Center representative, Wake County Economic Development exhibit, Austin Game Developers' Conference, September 2008.
- NCSU Digital Games Research Center representative, Wake County Economic Development exhibit, Game Developers' Conference, March 2008, 2009, 2011.
- Co-Organizer (with Tim Buie and Frank Boosman) of the Workshop on Collaboration in the North Carolina Serious Games Space. (2006)
- Co-organizer and Moderator, (with Frank Boosman), Forum on Serious Games: Games Night, North Carolina Center for Entrepreneurial Development. May 17, 2006.
- Co-organizer and Moderator, panel on "Computer Games in Serious Applications: Education, Training, and Beyond," the Council for Entrepreneurial Development InfoTech Conference, October 12, 2005, Raleigh, NC.
- Co-organizer (with Frank Booseman, 3DSolve Inc), Forum on Entertainment for Education: Serious Games in the Triangle, North Carolina Center for Entrepreneurial Development. October 20, 2004.

#### Advisory Boards and Organizational Activities

- Member, Board of Advisors, International Game Developers Association (IGDA) Triangle North Carolina Chapter (2003 to 2015).
- Co-Founder and member, Board of Directors and Research Director, Triangle Game Initiative, May 2008 to date.

FEDERAL AND STATE GOVERNMENTAL POLICY ACTIVITIES

- Presenter and representative for the Entertainment Arts and Engineering Program at the Utah Film Day at the Capitol, State Capitol Building, Salt Lake City, UT. January, 2017.
- Participant, Computing Research Association *Leadership in Science Policy Institute*, Washington DC, March 2013.
- Advisor to North Carolina Department of Commerce and to the North Carolina state senate Office of the President *Pro Tem* on the development of tax-based economic incentives for the North Carolina Games Industry. Process resulted in establishment of incentive in state budget during 2010 legislative session.
- Presenter and representative for the Computing Research Association, The Coalition for National Science Funding Science Exposition, House Office Building, Washington, DC. June, 2008.

### **OP-EDS**

- R. Michael Young, "Game on for computer science" *Raleigh News and Observer* (print and on-line). December 10, 2010.
- Alex Macris and R. Michael Young, "First Amendment embraces video games" *Raleigh News and Observer* (print and on-line). October 5, 2010.
- R. Michael Young, "Staying strong in video games" *Raleigh News and Observer* (print and on-line). April 5, 2010.

# PUBLICITY

#### **TELEVISION STORIES**

PBS, *Cool Spaces* episode *Libraries*, featured interview and system demonstration discussing research partnerships between NC State Faculty and the Hunt Library.

PBS, *Nova* episode *Forensics Under Fire*, featured interview and system demonstration discussing scientific contributions to the future of forensic sciences detailing the IC-CRIME game-based virtual forensics system.

National Geographic Channel, *The Link*, episode *From Fireworks to Forensics*, featured interview and system demonstration discussing scientific contributions to the future of forensic sciences detailing the IC-CRIME game based virtual forensics system.

UNC Television, North Carolina Today, segment on the North Carolina games industry, initially aired 12/27/2010

CNN, Next at CNN, November 15, 2003.

#### ARCHIVED INTERVIEWS

R. Young and Tim Buie. StoryCorp interview recorded and archived January 14, 2017. From the site:

Former colleagues R. Michael Young (55) and Tim Buie (53) talk about their cross-disciplinary work as professors at North Carolina State University (NCSU). They discuss some of the projects their students have worked on, including piracy games for the North Carolina Department of Cultural Resources.

Archived in the American Folklife Center at the Library of Congress, Washington, DC. URL: https://archive.storycorps.org/interviews/ddb002237/

### RADIO SHOWS

- ABC (Australian Broadcast Corporation) Radio National *The Deep End*. Interview focusing on the future of computer games. December 15, 2005.
- BBC Five Live *Weekend News*. Live interview focusing on the Liquid Narrative Group and the future of computer games. February 2, 2003.
- Radio FM4 *Digital Underground* (Austrian Broadcasting Corporation). Interview focusing on the Liquid Narrative Group. February, 2003.

Newspaper Articles

- Courtney Tanner, "These University of Utah students had their graduation ceremony inside a video game they created" Salt Lake Tribune, May 2, 2020. 04/02/2020
- Jennifer Jung, "Creating a game in the pursuit of 'NOL' edge", The Technician, June 27, 2012.
- Juliana Deitch, "University praised for video game development program", The Technician, March 15, 2012.
- Lindsey Rosenbaum, "Hunt library goes digital: Plans for Hunt Library include several high-tech and digital applications for students", The Technician, February 28, 2012.
- Jay Price, "NCSU freeze on academic centers affects Easley project", The Raleigh News and Observer, May 29, 2009.
- Lucianna Chavez, "They've' got next," The Raleigh News and Observer, May 3, 2009.
- David Ranii, "Wake recruits video game developers," The Raleigh News and Observer, April 27, 2009.
- Sam LaGrone, "Game maker seeks Triangle space", The Raleigh News and Observer, March 23, 2007
- Tony C. Yang, "Little Budget, Big Box Exposure," The Raleigh News and Observer, June 17, 2006.
- Staff reporter, "People," The Raleigh News and Observer, August 29, 2005.
- Elsa Youngsteadt, "The Evolution," The Technician, July 27, 2005.
- Seth Schiesel, Redefining the Power of the Gamer, New York Times (top story, Arts Section), June 7, 2005.
- Jonathan B. Cox, Colleges got game: Schools adding classes to prepare students for careers in growing videogame industry," *The Raleigh News and Observer*, May 15, 2005.
- Fiona Morgan, "Geeks at play: The art of the rocket-propelled ninja throwing star, and other lessons in computer gaming at NCSU", *The Independent Weekly*, May 11, 2005.

- Martha Quilin, "The Dude Behind Snood: Wacky Computer Game's Success Amazes Creator", *The Raleigh News and Observer*, January 30, 2005.
- Tyler Dukes, "Hailing one and all: New technology redefines the common gamer," *The Technician*, November 30, 2004.
- Jonathan B. Cox, Vicki Lee Parker and Alan M. Wolf (lead), "A look ahead: Tech in 2004 Triangle techies see trends", *The Raleigh News and Observer*, December 31, 2003.
- Michel Mariott, "Games Made for Remaking", The New York Times, December 4, 2003.
- Michel Mariott, "Video Game Players Get Their Say", International Herald Tribune, December 8, 2003.
- Michel Marriott, "Avid gamers build own virtual world," Marin Independent Journal Dec. 15, 2003.
- Matt Ehlers, "Making the unreal a reality -- Video game workshop draws more than 200 potential designers," *The Raleigh News and Observer*, November 12, 2003.
- Guiherme Werneck, "VIDEOGAME," *Folha de Sao Paulo*, Sao Paulo, Brazil. February 17, 2003. Folha de Sao Paulo is the most widely read newspaper in Brazil, with a circulation of over 500,000.
- Jonathan Cox, "Q&A With Michael Young," *The Raleigh News and Observer*, January 15, 2003. Story also carried by ACM TechNews Digest, Volume 5, Issue 446: January 15, 2003.
- Jonathan Cox, "Q&A With Michael Young," ACM TechNews Digest, Volume 5, Issue 446: January 15, 2003.
- Dan Kane, Jane Stancill, "Tuition hike could further boost faculty pay" *The Raleigh News and Observer*, February 19, 2002.

# MAGAZINE ARTICLES

- Erin Dunn, "Rapid Fire Growth: Locked and loaded, Epic Games blasts its way up this year's ranking of private companies," Business North Carolina, October, 2012.
- Sylvia Adcock, Expert Witnesses: NC State Researchers are Using Everything from Blow Flies to Carpet Fibers to Skull Mapping to Advance Forensic Science, NC State Alumni Magazine, Winter 2011.
- Staff Writer, Game Time! NC State is Fueling Big-Time Growth in North Carolina's Games Industry, NC State Engineering Magazine, Spring 2011
- Staff Writer, Not All Fun and Games, NC State Alumni Magazine, Fall 2008.
- Staff Writer, Engineering Frontline, College of Engineering, NC State University, Fall 2008.
- Staff Writer, *County Profile: Wake County*, Business Leader Magazine, June 2008, <u>http://</u> www.businessleadermagazine.com/Index.aspx?page=ui.article&PID=7017
- Staff writer, When Looks Are No Longer Enough, The Economist, June 8, 2006.
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# PROFESSIONALLY RELEVANT COMMUNITY SERVICE

Member, McGillis School Board of Trustees, Spring 2022 to date.

- Member, McGillis School Committee on Diversity and Inclusion, Spring 2019 to date.
- Web developer and webmaster for Immaculata Catholic School Annual Auction website, <u>www.icsbid.com</u>. Fall, 2008.
- Contest Judge, International Game Developer's Association Triangle Chapter Game Boy Advance Programming Contest, April 20, 2004.
- Member, Technology Committee, The Franciscan School, Raleigh, NC, (2003-2004).
- Invited Speaker, Meredith College Mathematics and Computer Science Club, Raleigh, NC, October 21, 2002.

Invited Speaker, North Carolina School of Math and Science, CyberCamp. Durham, NC, June 18, 2001

Invited Speaker, North Carolina School of Math and Science, CyberCamp. Durham, NC, June 22, 2001