

Dr. Ashish Amresh

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| CONTACT INFORMATION | Assistant Professor and Program Chair Embry Riddle Aeronautical University Simulation Science, Games and Animation 3700 Willow Creek Rd., Bldg. 61, Prescott, AZ 86301 USA | Work: +1-928-777-3704 E-mail: ashish.amresh@erau.edu WWW: interactive.asu.edu |
| RESEARCH INTERESTS | Serious games and game based learning , real-time rendering, computer science education, STEM learning, K-12 settings, human computer interaction, game design mechanics, simulation and training, health interventions. | |
| CURRENT ACADEMIC APPOINTMENTS | Assistant Professor and Program Chair , Embry Riddle Aeronautical University July 2017 to present Simulation Science, Games and Animation Program <ul style="list-style-type: none">• Founding faculty and Program Chair of the Simulation Science, Games and Animation program. An interdisciplinary program aimed at building specialized skills that apply the game design and animation process towards building interactive simulations for the purposes of education, training and research. | |
| PREVIOUS ACADEMIC APPOINTMENTS | Assistant Professor , Arizona State University August 2014 to June 2017 School of Computing, Informatics, and Decision Systems Engineering <ul style="list-style-type: none">• Member of the software engineering faculty and responsible for coordinating the graphics and gaming focus area offered under the bachelors in software engineering program. Member of the personalized learning research group tasked with conducting research in serious games.• Affiliations:<ul style="list-style-type: none">• Director, The Gaming and Interactive Lab• Faculty Affiliate, The PRIME center• Faculty Affiliate, The Decision Theater• Director, The Ultimate Technology Boot Camp Assistant Professor , Arizona State University August 2011 to July 2014 College of Technology and Innovation <ul style="list-style-type: none">• Hired by the college to create the graphics and gaming focus area for the software engineering program.• Affiliations:<ul style="list-style-type: none">• Faculty Affiliate, Learning Sciences Institute• Faculty Affiliate, College of Nursing, The Ohio State University Honors Faculty , Arizona State University July 2011 to June 2017 Barrett Honors College <ul style="list-style-type: none">• Supervised several honors students from the college.• Developed a series of online honors courses in game development. Instructor ABD , Arizona State University August 2010 to July 2011 College of Technology and Innovation <ul style="list-style-type: none">• Hired as an instructor into the software engineering program to develop and teach computer gaming courses. Lecturer , Arizona State University January 2007 to July 2010 School of Computing, Informatics, and Decision Systems Engineering <ul style="list-style-type: none">• Developed a certificate program in computer gaming that is available to all ASU students. | |

- Mentored several game development student teams who were consistently selected to be finalists at the Microsoft Imagine Cup.
- Created the award winning **Camp Game** summer program.

INDUSTRY
EXPERIENCE

Ronin Entertainment, Novato, CA

Graphics Software Engineer

August 2010 to July 2013

- Built a custom graphics engine for the XBOX console.
- Shipped a XBOX launch game "Bruce Lee Quest of the Dragon".
- Worked in an interdisciplinary setting consisting of artists, designers and programmers.

EDUCATION

Arizona State University, Tempe, AZ

Ph.D., Computer Science, **May 2011**

- Thesis Topic: *Smooth Surfaces for Video Game Development*
- Adviser: Professor Gerald Farin
- Co-Adviser: Professor Anshuman Razdan
- Area of Study: Curves and Surfaces

M.S., Computer Science, **May 2000**

- Thesis Topic: *Adaptive Subdivision Schemes for Triangular Meshes*
- Adviser: Professor Gerald Farin
- Co-Adviser: Professor Anshuman Razdan
- Area of Study: Curves and Surfaces

PUBLICATIONS

I have separated my publications between journals and conferences and have listed them chronologically. Students that I have advised have been underlined and the following annotations *** (doctoral), ** (masters), * (undergraduate) have been used to indicate the student standing.

REFEREED
JOURNAL
PUBLICATIONS

- [1] **Development of a Mobile, Avatar-based Application to Monitor Teen's Personal Body Shape Goals.** (Lyles, Annmarie, Ashish Amresh, Michael Todd, and Rebecca E. Lee), *Annals OF Behavioral Medicine*, Vol. 51, 233, 2017. Impact Factor 4.2.
- [2] **A Mobile, Avatar-Based App for Improving Body Perceptions Among Adolescents: A Pilot Test.** (Lyles, Annmarie A., Ashish Amresh, Jennifer Huberty, Michael Todd, and Rebecca E. Lee) *JMIR serious games* Vol 5, no. 1, 2017. Impact Factor 3.32.
- [3] **Usability of a Smartphone Application to Support the Prevention and Early Intervention of Anxiety in Youth.** (Stoll, Ryan D., Armando A. Pina, Kevin Gary, and Ashish Amresh), *Cognitive and Behavioral Practice*, 2017. Impact Factor 2.150.
- [4] **The Use of a Kiosk-model Bilingual Self-triage System in the Pediatric Emergency Department** (Madhumita Sinha, Kai-Ning Khor, Ashish Amresh, David Drachman, Alan Frechette), *In Pediatric Emergency Care*, LWW, volume 30, pp. 63-68, 2014. Impact factor 0.891.
- [5] **Remote Control and Visualization of Scanning Probe Microscopes via the Web** (Anshuman Razdan, Junyi Sun, Naresh Kumar Bade, Ashish Amresh, BL Ramakrishna, Ed Ong), *In Proceedings of the Royal Microscopy Society*, volume 35, pp. 279-305, 2000.

- [1] **Aspira:Employing a serious game in an mHealth app to improve asthma outcomes.** (Thomson, Jamie, Chris Hass, Ivor Horn, Elizabeth Kleine, Stephanie Mitchell, Kevin Gary, Ishrat Ahmed, Derek Hamel, and Ashish Amresh), *In Serious Games and Applications for Health (SeGAH), 2017 IEEE 5th International Conference on*, pp. 1-7. IEEE, 2017.
- [2] **Towards a Home-based Virtual Reality Game System to Promote Exercise.** (Ashish Amresh, and Rahul Salla), *In Proceedings of the 50th Hawaii International Conference on System Sciences*, 2017.
- [3] **A Complex Systems Framework Approach Towards Multidisciplinary Tumor Boards.** (Salla, Rahul, Robert Pahle, and Ashish Amresh), *In Healthcare Innovation Point-Of-Care Technologies Conference (HI-POCT)*, 2016 IEEE, pp. 171-174. IEEE, 2016.
- [4] **Reflection on Assumptions from Designing Female-Centric Educational Games.** Heath, Corey DC, Tyler Baron, Kevin Gary, and Ashish Amresh. *In Joint International Conference on Serious Games*, pp. 25-41. Springer International Publishing, 2016.
- [5] **Towards a Context Agnostic Platform for Design and Assessment of Educational Games.** (Baron, Tyler, Corey Heath, and Ashish Amresh.) *In 10th European Conference on Games Based Learning: ECGBL*, 2016, p. 34.
- [6] **Design, Implementation and Evaluation of a Game-Based Intervention Targeting Latino Children for Improving Obesity Outcomes** (Ashish Amresh, Madhumita Sinha, Rebecca Birr, Rahul Salla), to appear *In Proceedings of the 4th International Conference on Serious Games and Applications for Health, IEEE*, 2016.
IEEE SeGAH is the premier conference in disseminating games developed for improving health outcomes. The conference attracts submissions from all over the world and furthers discussions and collaborations between serious games developers and academics.
- [7] **Development and Use of a Tablet-based Resuscitation Sheet for Improving Outcomes during Intensive Patient Care** (Wasif Bokhari **, Vimla L Patel, Ayan Sen, Ashish Amresh), *In Proceedings of the 6th International Conference on Digital Health Conference, ACM*, pp. 17-21, 2016. Acceptance rate 24%.
ACM Digital Health, held in conjunction with WWW Conference, and in cooperation with ACM SIGMOD and SIGKDD, focuses on public health computer science covering a wide spectrum of subjects including communities of practice and social networks, analytics and engagement with tracking and monitoring wearable devices, big data, public health surveillance, persuasive technologies, epidemic intelligence, participatory surveillance, serious games for public health interventions and automated early identification of health threats and response.
- [8] **Designing a Mobile Application to Support the Indicated Prevention and Early Intervention of Childhood Anxiety** (Mandar Patwardhan **, Ryan Stoll, Derek B Hamel, Ashish Amresh, Kevin A Gary, Armando Pina), *In Proceedings of the conference on Wireless Health*, pp. 8, 2015. Acceptance rate 33%.
Sponsored by NIH, the annual Wireless Health Conference series invites cutting edge wireless, connected and mobile health research from engineering, computer science, biomedical and health disciplines.
- [9] **Developing a Bilingual, Computer-Tailored, HPV Vaccination Promotion Intervention Targeting Latino Parents** (Angela Chia-Chen Chen, Ashish Amresh), *In Proceedings of the 5th International Conference on Digital Health, ACM*, pp. 59-64, 2015. Acceptance rate 26%.
- [10] **Interactive Cause and Effect Comic-book Storytelling for Improving Nutrition Outcomes in Children** (Ashish Amresh, Madhumita Sinha, Rebecca Birr, Rahul Salla), *In Proceedings of the 5th International Conference on Digital Health, ACM*, pp. 9-14, 2015. Acceptance rate 26%.

- [11] **Word Towers: Assessing Domain Knowledge With Non-Traditional Genres** (Tyler Baron ^{***}, Ashish Amresh), *In Proceedings of the 9th European Conference on Games Based Learning*, pp. 638, 2015. Acceptance rate 48%.
ECGBL is the premier conference in the area of Game Based Learning. This Conference provides a forum for discussion, collaboration and intellectual exchange for all those interested in the technological, pedagogical and social issues of building educational games in research or practice.
- [12] **Make Your Garden Grow: Designing a Physical Activity Estimation Improvement Game** (Ashish Amresh, Leigh Small), *In Proceedings of the 3rd International Conference on Serious Games and Applications for Health, IEEE*, 2014.
- [13] **GameScapes and SimApps: New Techniques for Integrating Rich Narratives With Game Mechanics** (Ashish Amresh, David Clarke, Doug Beckwith), *In Proceedings of the 8th European Conference on Games Based Learning*, volume 1, pp. 18-25, 2014. Acceptance rate 55%.
- [14] **Measuring Computing Self-Efficacy** (Hannah Kolar, Adam R Carberry, Ashish Amresh), *In Proceedings of the American Society for Engineering Education (ASEE) Annual Conference*, 2013.
- [15] **Improving E-Learning Videos Using Personalization and Social Signals** (Adit Shah ^{**}, Ashish Amresh, John Femiani), *In the Proceedings of E-Learn: World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education*, pp. 1696-1700, 2013.
E-Learn-World Conference on E-Learning is an international conference organized by the Association for the Advancement of Computing in Education (AACE) and co-sponsored by the International Journal on E-Learning. This annual conference serves as a multi-disciplinary forum for the exchange of information on research, development, and applications of all topics related to e-Learning in the Corporate, Government, Healthcare, and Higher Education sectors.
- [16] **ScrumTutor: A Web-based Interactive Tutorial for Scrum Software development** (Sindhura Potineni ^{**}, Srividya Bansal, Ashish Amresh), *In Proceedings of the International Conference on Advances in Computing, Communications and Informatics (ICACCI)*, pp. 1884-1890, 2013. Acceptance rate 25%.
- [17] **UAV Sensor Operator Training Enhancement Through Heat Map Analysis** (Ashish Amresh, John Femiani, Jason Fairfield ^{*}, Adam Fairfield ^{*}), *In Proceedings of the 17th International Conference on Information Visualisation*, pp. 457-461, 2013.
The Information Visualization conference is one of the longest running and prestigious conferences on understanding and disseminating data using multimedia and multimodal techniques.
- [18] **Evaluating the Effectiveness of Flipped Classrooms for Teaching CS1** (Ashish Amresh, Adam R Carberry, John Femiani), *In Frontiers in Education Conference, IEEE*, pp. 733-735, 2013.
The 43rd Annual Frontiers in Education (FIE) Conference is the major international conference about educational innovations and research in engineering and computing. FIE 2013 continues a long tradition of disseminating results in these areas. It is an ideal forum for sharing ideas; learning about developments in computer science, engineering, and technology education; and interacting with colleagues in these fields.
- [19] **World of Golf: A Socially Relevant Simulation Game** (Ramin Tadayon ^{*}, Winslow Burleson, Ashish Amresh), *In Proceedings of the 4th International Conference on Fun and Games, ACM*, pp. 83-92, 2012. Acceptance rate 28%.
Fun and Games 2012 is a single-track, 2-day conference where academics and practitioners can interact together in a playful event that marries the best of academic writing with the most innovative play experiences. The conference invites original contributions from designers, developers and researchers in computer games, experience play design and fun. Of particular interest are

contributions that cross the traditional disciplines of human-computer interaction, games design, and game development.

- [20] **Work in Progress: Teaching Game Design and Robotics Together** (Adam R Carberry, Ashish Amresh), *In Proceedings of the Frontiers in Education Conference, IEEE*, 2012.
- [21] **Methods for Approximating Loop Subdivision using Tessellation Enabled GPUs** (Ashish Amresh, John Femiani, Christoph Fünfzig), *In Advances in Visual Computing*, Springer Berlin Heidelberg, pp. 115-125, 2012.
- [22] **Socially Relevant Simulation Games: A Design Study** (Ramin Tadayon *, Ashish Amresh, Winslow Burleson), *In Proceedings of the 19th International Conference on Multimedia, ACM*, pp. 941-944, 2011. Acceptance rate 18%.
ACM Multimedia is the premier multimedia conference and a key event to present scientific achievements and innovative industrial products. The conference offers scientists and practitioners in the area of multimedia technical sessions, tutorials, competitions, panels and discussion meetings on relevant and challenging research questions. In addition to a strong technical program, ACM Multimedia will set the grounds for interaction between artists, research scientists, and practitioners with the aim of reflecting on the impact of multimedia technologies on contemporary digital culture.
- [23] **Semi-uniform, 2-different Tessellation of Triangular Parametric Surfaces** (Ashish Amresh, Christoph Fünfzig), *In Advances in Visual Computing*, Springer Berlin Heidelberg, pp. 54-63, 2010.
- [24] **Creating Interest in Computer Graphics by Teaching Game Development** (Ashish Amresh, Pushpak Karnick), *In EG Education Papers*, Citeseer, pp. 9-16, 2007.

BOOKS

- [1] **Smooth Surfaces for Video Game Development** (Ashish Amresh), *Ph.D. Thesis*, Arizona State University, 2011.
- [2] **Unreal Game Development** (Ashish Amresh, Alex Okita), CRC Press, 2010.
Unreal Game Development is a book written for the enthusiast/hobbyist game developer and provides a comprehensive set of instruction in all areas of game development that includes level design, game art and game programming. The book has sold over 2000 copies worldwide and has been adopted at several high schools.
- [3] **Subdivision Schemes for Interpolating Subdivision of Polygonal Meshes and Adaptive Subdivision of Triangular Meshes** (Ashish Amresh), *Masters Thesis*, 2000.

BOOK CHAPTERS

- [4] **Adaptive Subdivision Schemes for Triangular Meshes** (Ashish Amresh, Gerald Farin, Anshuman Razdan), *In Hierarchical and Geometrical Methods in Scientific Visualization*, Springer Berlin Heidelberg, pp. 319-327, 2003.
- [5] **Game Based Behavior Change Methods in Healthcare: The Case of Obesity** (Ashish Amresh, Ann Lyles, Kevin Gary), *In Cognitive Informatics in Health and Biomedicine*, Springer International Publishing, pp. 347-366, 2017.

INVITED TALKS

- [1] *The Entrepreneurship Arcade*, ASU Women in Philanthropy finalist presentation, 2016.
- [2] *Using Burst Games in Classrooms: Challenges and Impacts*, ASU GSV Summit, 2015, Panelist.
- [3] *Making Apps and Games to Improve Computing (MAGIC)*, ASU Women in Philanthropy finalist presentation, 2015.

- [4] *Mobile Games as Simulation Exercises for Medical Residents*, Cleveland Clinic, 2015 (Invited).
- [5] *Creating Effective Games that Scale*, WICHE Cooperative for Educational Technologies (WCET) Annual Conference, 2013 (Invited).
- [6] *More than Just a Game: Best practices in Game Design*, International Communication Association (ICA) Conference, 2012 (Invited).
- [7] *Using primary school classroom computer gaming for number sense*, National Council for Teachers in Mathematics (NCTM) Conference, 2012 (Invited).
- [8] *Teaching Singapore Math using Games*, TedX ASUwest, 2011.

GRANTS

Currently in Progress

- [1] Co-I, “App Maker Pro (Amp): Motivating Stem Study Through App Development”, NSF-EHR-DRL, \$1,136,706, June 15, 2015 to May 31, 2018. Recognition: 16%.

Completed

- [1] PI, “Improving Coding Skills In Underrepresented Teenage Girls”, Girl Scouts of Arizona, \$25,000, January 1, 2016 to December 31, 2016. Recognition: 100%.
- [2] PI, “Safe Pets: App Development For Improving Health Outcomes For Immuno-compromised Pet Owners”, Ohio State University, \$8,000, January 1, 2016 to May 31, 2016. Recognition: 100%.
- [3] PI, “Technology Based Obesity Prevention Project”, NIH-MIHS-R03, \$23,309, November 1, 2013 to June 15, 2015. Recognition: 100%.
- [4] Co-PI, “A Pilot Study Of A Computer-Tailored Intervention To Promote Hpv Vaccination Among Mexican American Adolescents”, Signa-Theta-Tau, \$34,960, June 1, 2014 to August 30, 2015. Recognition: 20%.
- [5] PI, “Burst Games For English Language And Composition”, Toolwire Inc., \$5,000, March 1, 2014 to December 31, 2014. Recognition: 100%.
- [6] PI, “Burst Games For Critical Thinking”, Toolwire Inc., \$28,276, July 17, 2013 to February 28, 2014. Recognition: 100%.
- [7] PI, “Creation Of Mobile Phone Application For Domestic Violence Victim Advocate Services”, O’Connor House, \$10,723, March 1, 2013 to July 31, 2013. Recognition: 100%.
- [8] PI, “Burst Games To Teach Environmental Science Concepts”, Toolwire Inc., \$48,723, March 1, 2013 to July 31, 2013. Recognition: 100%.
- [9] Game Design Consultant, “Vocational Training and Education on Clean Energy”, USAID, \$10,000,000 August 1, 2012 to May 31, 2017. Recognition: None.
- [10] PI, “Burst Games To Teach Environmental Science Concepts”, Toolwire Inc., \$48,723, March 1, 2013 to July 31, 2013. Recognition: 100%.
- [11] PI, “Computer Science for High School”, Google Inc., \$5,000, Aug 1, 2012 to July 31, 2013. Recognition: 100%.
- [12] Consultant, “Assessing the Utility of Audio Assisted Self-Triage Kiosks in the Pediatric Emergency Department”, Maricopa Integrated Health System, \$100,000, Aug 1, 2011 to July 31, 2012. Recognition: None.

[13] PI, "Heat Maps for UAV Sensor Operator Training", Alion Sciences Corporation, \$93,000, Aug 1, 2011 to July 31, 2012. Recognition: 100%.

[14] PI, "Heat Map Visualization for Combat Training", Science Foundation of Arizona, \$110,000, Aug 1, 2010 to July 31, 2012. Recognition: 100%.

AWARDS

Arizona State University

- ASU President's Award for Innovation, 2012
- College of Technology and Innovation Faculty Mentor Award , 2011
- Microsoft Outstanding Educator Award , 2009
- Graduate College Teaching Excellence Award , 2005
- College of Engineering Student Leadership Award , 2005

STUDENT ADVISING

Current Students

Vipin Verma

Doctoral student in Simulation, Modeling and Applied Cognitive Science, Arizona State University.

Topic: To be determined.

Role: Chair.

Expected graduation: May 2019.

Corey Heath

Doctoral student in Computer Science, Arizona State University.

Topic: **Creating Adaptive Person-Centered Educational Applications for Students With Attention Deficit Disorder**

Role: Committee member; Chair: Dr. Sethuraman Panchanathan.

Expected graduation: May 2018.

Ramin Tadayon

Doctoral student in Computer Science, Arizona State University.

Topic: **A Person-Centric Design Framework for At-Home Motor Learning in Serious Games**

Role: Committee member; Chair: Dr. Sethuraman Panchanathan.

Expected graduation: May 2017.

Past Students

Tyler Baron

Doctoral student in Simulation, Modeling and Applied Cognitive Science, Arizona State University.

Topic: **Designing Context Agnostic Burst Game Mechanics for Educational Games, May 2017**

Role: Chair.

Somnath Shahapurkar

Doctoral student in Computer Science, Arizona State University.

Topic: **Crossing the Utile-Chasm: Framework for Productizing Machine-learning Algorithms in Dynamic Real-world Scenarios, December 2016**

Role: Committee member; Chair: Dr. Huan Liu.

Shujian Ke

Masters thesis student in Software Engineering, Arizona State University.

Topic: **Real-time Rendering in Games, May 2017**
Role: Chair.

Chenyang Li

Masters thesis student in Computer Science, Arizona State University.
Topic: **Ambient Occlusion Techniques via the Web, May 2017**
Role: Chair.

Sreenivas Shenoy

Masters thesis student in Computer Science, Arizona State University.
Topic: **An Adaptive Time Reduction Technique for Video Lectures, May 2016**
Role: Chair.

Mandar Patwardhan

Masters thesis student in Software Engineering, Arizona State University.
Topic: **Mobile Application for the Prevention of Anxiety in Children, May 2016**
Role: Committee member; Chair: Dr. Kevin Gary

Zachary Moore

Honors student in Software Engineering, Arizona State University.
Topic: **Enhancing Student Learning through Adaptive Sentence Generation, May 2016**
Role: Honors thesis director.

Nicholas Carney

Honors student in Software Engineering, Arizona State University.
Topic: **Oculus Exercise: A Fitness Promotion Tool, May 2016**
Role: Honors thesis director.

Jayson Chesler

Honors student in Journalism, Arizona State University.
Topic: **Paid to play: Games as mass communication tools, May 2016**
Role: Honors thesis second reader; Director: Retha Hill

Colin Garttmeier

Honors student in Digital Culture, Arizona State University.
Topic: **Distant - An Original Game, May 2016**
Role: Honors thesis second reader; Director: Dr. Dan Collins

Peter Johnson

Honors student in Computer Science, Arizona State University.
Topic: **Keyboard Input Biometric Authentication Spoofing, May 2016**
Role: Honors thesis second reader; Director: Dr. Brian Nelson

Wasif Bokhari

Masters thesis student in Computer Science, Arizona State University.
Topic: **Development and use of an iPad-based resuscitation code blue sheet for improving resuscitation outcomes during intensive patient care, December 2015.**
Role: Co-Chair; Co-Chair: Dr. Vimla Patel
First employment: Intel.

Abha Uphadhyay

Masters thesis student in Computer Science, Arizona State University.

Topic: **Analyzing the effect of Open Learner Model in a Teachable learning system Represented through a Feedback system**, December 2015.

Role: Committee member; Chair: Dr. Erin Walker.

First employment: American Express.

Rebecca Little

Honors student in Software Engineering, Arizona State University.

Topic: **Exploring the Virtual Reality Threshold using the Oculus Rift**, May 2015.

Role: Honors thesis director.

First employment: General Motors.

Adit Shah

Masters student in Software Engineering, Arizona State University.

Topic: **Improving E-Learning Videos using Personalization and Social Signals**, May 2014.

Role: Applied project adviser.

First employment: Ticketmaster.

Sindhura Potineni

Masters student in Software Engineering, Arizona State University.

Topic: **ScrumTutor: A Web-based Interactive tutorial for Scrum Software Development**, May 2013.

Role: Applied project co-adviser.

First employment: Intel.

Ramin Tadayon

Honors student in Computer Science, Arizona State University.

Topic: **Socially Relevant Simulation Games**, May 2012.

Role: Honors thesis director.

First employment: Currently pursuing PhD in Computer Science.

TEACHING EXPERIENCE

Ira A. Fulton Schools of Engineering, Arizona State University, Tempe, AZ

Assistant Professor

August 2014 to present

- SER 594 Game Based Learning
 - Graduate course that teaches the theoretical constructs that promote learning and how game mechanics need to be designed for knowledge transfer and assessment.
 - Primary course coordinator and the course has been offered once with an enrollment of 7 students.
 - The course has readings, critiques, design projects and a group project that results in developing an educational game.
- SER 431 Advanced Graphics
 - Undergraduate course that advances the concepts learnt in SER 331.
 - Primary course coordinator and the course has been offered once with an enrollment of 17 students.
 - The course is taught is OpenGL and students complete six programming projects to apply the concepts.
- SER 432 Game Engine Architecture
 - Undergraduate course that culminates the three course sequence in the gaming and graphics focus area.
 - Primary course coordinator and the course has been offered once with an enrollment of 14 students.
 - The course is taught with the Unreal game engine and students work in teams to complete a game prototype.

College of Technology and Innovation, Arizona State University, Mesa, AZ

Assistant Professor

August 2011 to July 2014

- SER 100 Object Oriented Software Development I
 - Undergraduate course that introduces programming principles to freshman software engineering students.
 - Developed in conjunction with Dr. John Femiani and Richard Whitehouse.
 - The course is taught in Python and uses the pygame library for the assignments.
- SER 200 Object Oriented Software Development II
 - Undergraduate course that introduces programming principles to freshman software engineering students.
 - Developed in conjunction with Richard Whitehouse.
 - The course is taught in Java and uses the Greenfoot library for the assignments.
- SER 332 Introduction to Graphics
 - Undergraduate course that introduces graphics principles and is the first course taken in the graphics and gaming focus area.
 - Primary course coordinator and the course has now been offered for the past two years and 40 students that have taken it.
 - The course is taught in WegGL and students complete six programming projects to apply the concepts.

Ira A. Fulton Schools of Engineering, Arizona State University, Tempe, AZ

Lecturer

January 2007 to July 2010

- Developed an 18 credit certificate in computer gaming available for all students at ASU. The certificate began with enrolling 25 students in 2009 and has continued to grow and now enrolls 110 students. The certificate is currently managed by Dr. Yoshihiro Kobayashi. Included the development of the following courses.
 - CPI 111 Game Development I
 - CPI 211 Game Development II
 - CPI 311 Game Engine Development
 - CPI 445 Gaming Capstone

ACADEMIC
PROGRAMS

The Simulation Science, Games and Animation undergraduate program

Founding faculty member at the College of Arts and Sciences, Embry Riddle Aeronautical University responsible for launching, administering and accrediting an new interdisciplinary program. 2017 - present.

The Computer science Ph.D. program

Faculty member with ability to Co-Chair doctoral students, Ira A. Fulton Schools of Engineering, Arizona State University. Recently admitted to this doctoral program and aim to recruit computing doctoral students interested in pursuing research in game based learning. 2016-2017.

The Simulation, Modeling and Applied Cognitive Science Ph.D. program

Faculty member with ability to Chair doctoral students, Ira A. Fulton Schools of Engineering, Arizona State University. Joined this doctoral program to strengthen the research in serious games and game based learning by mentoring and advising students in the program. 2014-2017.

The Graphics and Gaming focus area offered with the Software Engineering programs

Course coordinator, College of Technology and Innovation, Arizona State University. Developed a series of courses that students take as their primary focus area in the software engineering program. 2012-2017.

The Software Engineering undergraduate and graduate degree programs

Faculty member, College of Technology and Innovation, Arizona State University. Recruited into the software engineering program faculty to build and teach a nationally reputed and recognized undergraduate and graduate program. 2010-2017.

ACADEMIC
COMMITTEES

Software Engineering Lecturer search committee

Member, Ira A. Fulton Schools of Engineering, Arizona State University. 2015.

Software Engineering Undergraduate Committee

Member, Ira A. Fulton Schools of Engineering, Arizona State University. 2014-2017.

Intermedia Art Search Committee

Member, Herberger School of Art, Arizona State University. Resulted in the hiring of Meredith Drum. 2012.

Engineering Engagement Committee

Member, College of Technology and Innovation, Arizona State University. 2012.

Computing Undergraduate Curriculum Committee

Member, College of Technology and Innovation, Arizona State University. 2012.

Computing Faculty Search Committee

Member, College of Technology and Innovation, Arizona State University. Resulted in the hiring of Dr. Sohum Sohoni and Dr. Ashraf Gaffar into the program . 2011.

Engineering Faculty Search Committee

Member, College of Technology and Innovation, Arizona State University. Resulted in the hiring of Dr. Shawn Jordan and Dr. Adam Carberry into the program . 2010.

PROFESSIONAL
SERVICE

Conference Service

- Papers Review Committee, ACM Special Interest Group in Computer Science Education (SIGCSE), 2011 - present
- Papers Review Committee, Frontiers in Engineering Education, 2011 - present
- Papers Review Committee, European Conference on Game Based Learning, 2014 - present
- Session Chair, ACM Special Interest Group in Computer Science Education (SIGCSE), 2013
- Papers Review Committee, Foundations of Digital Games, 2012

Journal Service

- Reviewer, *Journal of Systems and Software*, 2015 - present
- Reviewer, *IEEE Transactions on Engineering Education*, 2015 - present
- Reviewer, *Journal of Biomedical Informatics*, 2015 - present

PROFESSIONAL
MEMBERSHIPS

- Association of Computing Machinery
- North American Gaming and Simulation Association
- Digital Games Research Association
- Arizona Science Education Leadership Association
- International Game Developer Association
- Entertainment Software Association

EXTERNAL
SERVICE

The Spark App League

- Founding faculty member. The Spark App League is the premier mobile app development high school student competition in Arizona that is conducted every spring. 2013-present.

Ultimate Technology Boot Camp

- Director for the two week residential technology summer program, 2014 - present

NSF SBIR/STTR Program

- Panelist and reviewer for the educational gaming track of the program, 2013 - present

Intel International Science and Engineering Fair (ISEF) 2013

- Reviewer and award judge for computer science

Collective software design student club

- Faculty adviser. This student club builds expertise in best software engineering practices in the membership by creating software teams and having them build apps and games. 2012-present.

Arizona Department of Education, Career and Technical Program

- Curriculum adviser, game software development track of the program, 2011-present

Camp Game Summer Program

- Director for a summer program that teaches game design skills to middle and high school students, 2007 - 2013
- Awarded the ASU President's award for Innovation for this program in 2012

Game Education Summit

- Advisory Board member for the premier conference on game education curriculum development, 2008 - 2010

IN MEDIA

How do you meet demand to fill tech-related jobs in AZ? Get kids interested, *Cronkite News*, October 2016. <https://tinyurl.com/yavgcs4q>

Cool ASU summer programs bring on learning and fun, *ASU Now Article*, February 26, 2016. <http://fw.to/KBGzfDR>

Project App Maker Pro aims to increase high schoolers' interest in STEM fields, *ASU Now Article*, January 19, 2016. <http://tinyurl.com/zp5uy86>

The flipped classroom is all the buzz, *Monterey Herald Education*, January 1, 2016. <http://www.montereyherald.com/article/NF/20160109/NEWS/160109805>

Why children's worries should be everyone's worries, *ASU Now Article*, Nov 3, 2015. <http://tinyurl.com/jgejnx2>

Interactive learning: ASU Online to pilot environmental science games, *ASU Now Article*, March 31, 2015. <http://tinyurl.com/h34f48a>

The Spark App League, *PBS: Arizona Horizons hosted by Ted Simmons*, February 19, 2014. <https://www.azpbs.org/arizonahorizon/detail.php?id=2365>

Medicine increasingly turning to video games to speed recovery, *ABC 15 Arizona*, May 5, 2013. <http://tinyurl.com/hz29aar>

2012 President's Award for Innovation, *ASU Now Article*, April 19 15, 2012. <https://asunow.asu.edu/content/2012-presidents-award-innovation>

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