

Developer, Scientist & Consultant

Seeking a development, consultant, or lead position; Proven leader of applied research and development teams; Strong interest in visualization and reality capture; Experience in simulation, extended reality (AR, VR, XR), game design, networking, web development, AI/ML, and robotics. Will consider an applied research, liaison, or management position.

Experience

- 20+ years in Management and Leadership
- 20+ years in Simulation, Graphics, Interfaces, and Analysis
- 20+ years in Programming: Windows, Linux, Mac, iOS, Web, multiple languages
- 15+ years in Instructional Preparation and Execution
- 10+ years in Advanced Visualization, Stereoscopic Display, and Motion Capture
- 5+ years in Extended, Augmented and Virtual Reality
- 5+ years in Reality-Capture and Laser Scanning
- 2 released mobile games and over 5 published papers.

Positions

Senior Systems Engineer	♦ Raytheon An RTX Business	♦ 2016 – present
Assistant Professor	• University of Wisconsin – Stout	◆ 2013 – 2016
Software Developer	♦ Kihon Games	◆ 2012 – 2012
Senior Systems Engineer II	 Raytheon Missile Systems 	 ◆ 2007 – 2012
Professional Tutor	 The Tradition at Northgate 	 ◆ 2004 – 2007
Lecturer & Teaching Assistant	♦ Texas A&M University	♦ 1997 – 2003
Software Engineer	 Texas A&M University – Rec Sports 	♦ 1998 – 2000
Software Developer	 Customer Development Corporation 	♦ 1995 – 1997

Awards

Technical Honors, Raytheon Intelligence & Space Excellence in Engineering Award, Raytheon Missile Systems Aviation Week magazine's Program Excellence Award		 ◆ 2019 - 2020 ◆ 2018 ◆ 2017 		
Education				
Ph.D. Computer Science	♦ Texas A&M University	◆ May 2007		
M.S. Mathematics	♦ Texas A&M University	◆ Dec 1999		
B.S. Computer Science	 Bradley University 	♦ May 1995, magna cum laude		
B.S. Mathematics	♦ Bradley University	♦ May 1995, magna cum laude		

Recent Activities

- **Corporate consultations:** Create and standardize meeting areas for immersive collaboration. Design and build large scale visualization areas, identifying use cases and potential ROI. Address requirements to support capabilities such as stereoscopic viewing, XR headsets, remote interaction, holographic table, etc.
- **Automated fall detection project:** Designed, developed, and implemented algorithms to automatically detect and report falls using a webcam. One person project making use of HTML, JavaScript, ml5.js and p5.js libraries.
- **Remote sensing and robotic control project:** Designed and implemented a system to allow a remote expert to visually inspect an object of interest via a web-browser. Included options to visualize 3D digital models as well as real-world camera views. Two-person team using Python, nodeJS, OpenCV, Raspberry Pi, networking protocols, HTML, JavaScript, and related libraries and applications.

Work Descriptions

 Raytheon | An RTX Business (historically: RI&S, SAS, RMD, RMS):
 2007-2012, 2016-present

 Working for the Immersive Design Centers in Tucson, AZ and McKinney, TX, I advocated for and architected a single node CAVE-like visualization system. This simplified the design, reduced the cost, and made the technology more compatible with RTX's network infrastructure. It is anticipated to make it easier to incorporate into closed areas. In general, I was R&D lead, configured, designed, and developed hardware and software for CAVE, HMD VR, AR, motion capture, laser scan, remote inspections, robotic controls, reality capture, AI/ML, and related technologies. This led to multiple published papers and at least one submission for patent consideration. Earlier I was a simulation lead where I designed, developed, and released work projects in modeling, simulation, and analysis for missile systems. I was backup for multiple project management positions and mentored in IPT and CAM activities.

UW-Stout:	2013 – 2016
Planned and taught courses in computer science, game design and development. Led undergrad and grad study	ents in R&D efforts.
Member of hiring committees. Helped with ABET accreditation. Presented at 2014 Science Olympiad with my st	udents.
Kihon Games:	2012 – 2012
Programmed multiple iOS games. Two were officially released: Dojo Danger and SketchPhrase.	
The Tradition at Northgate:	2004 – 2007
Organized and conducted tutoring in mathematics, physics, engineering, and computer science.	
Texas A&M University and Rec Sports:	1997 – 2003
As a lecturer I prepped, planned, and taught computer science courses. As a teaching assistant I taught math, e computer science courses. For Rec Sports I designed and created the database and supporting software for the V	ngineering, and Valk of Champions

Customer Development Corporation:

I developed SQL drivers and client software for a proprietary data warehouse.

Publications:

Using Machine Learning to Focus on an Object of Interest During Remote Collaboration, 2022 2022 Annual Reliability and Maintainability Symposium (RAMS IEEE), pp. 1-7, Brent Dingle, Coleman Eubanks, Keith Janasak, Avery Link, Alec Moore. 2022. https://doi.org/10.1109/RAMS51457.2022.9893926

3D RAM Modeling & Simulation in a Model Based Systems Environment, 2020

2020 Annual Reliability and Maintainability Symposium (RAMS IEEE), pp. 1-6, Brent Dingle, Coleman Eubanks, Keith Janasak. 2020. https://doi.org/10.1109/RAMS48030.2020.9153644

Augmented Reality: Into the Factory and Beyond, 2019

In Technology Today, Issue 1, pp. 16 – 21, Keith Janasak, John Cogliandro, Brent Dingle, Adam Feccia, and Kristen Stone. 2019.

Teaching Strategic Lean Thinking through Simulation Gaming, 2018

In Journal of Online Engineering Education, Vol. 9, No. 2, Article 3, Thomas A. Lacksonen and Brent Dingle. 2018. https://onlineengineeringeducation.com/index.php/joee/article/view/22

The Trial of Galileo: A Game of Motion Graphs, 2014

In Proceedings of CHI PLAY '14. ACM, pp. 363-366, Ian Pommer, Michael N. Flaherty, Alicia Griesbach, Bryant Seiler, John Leitner, Kenneth Patterson, Dylan Tepp, and Brent Dingle. 2014.

Keyframing Particles of Physically Based Systems, 2005

In TPCG05: Eurographics UK Chapter Proceedings, University of Kent, Canterbury, United Kingdom, June 2005, pp. 11 – 18, Brent Dingle and John Keyser. 2005. Winner of the Robert Fletcher Prize for Best Application Paper and Presentation.

1995 - 1997

Service & Leadership:

2020-2023	R&D Lead for Raytheon RI&S Immersive Design Center
2018-2023	Member, Advisory Committee for Collin College Computer Systems Program
2019	Advisor, Senior Design Program, University of Texas – Dallas and Raytheon
2018-2019	Development Team Lead for Raytheon SAS Immersive Design Center
2017-2019	Member, Advisory Board to Game Design and Development Program for UW-Stout
2017	Advisor, Senior Engineering Design Program, University of Arizona and Raytheon
2016	Member, Hiring Search Committee, UW-Stout
2015	Member, E3 Competition Steering Committee, UW-Stout
2015	Member, Computers and Writing Conference Committee, UW-Stout
2015	Member, Hiring Search Committee, UW-Stout
2014-2016	Faculty Advisor, Student Club Stout-Magic the Gathering, UW-Stout
2014	Presenter, Science Olympiad State Competition, UW-Stout
2014	Judge, Spring Game Contest, UW-Stout
2013	Judge, Fall 48-Hour Gaming Contest, UW-Stout
2013	Judge, ACM Programming Contest, UW-Stout
2010-2011	Deputy Integrated Product Team Lead, Raytheon Missile Systems
2010-2011	Simulation Team Lead, FMS Processor Replacement Program (PRP), Raytheon
2008-2011	Simulation Team Lead, Phases 1, 2, and 3 PRP, Raytheon Missile Systems
1998-1999	President, Graduate Student Organization, Mathematics, Texas A&M University
1998-1999	Representative, Graduate Student Council, Mathematics, Texas A&M University
1994-1995	Member by appointment, Advisory Board to the Dean, Bradley University
1994-1995	Vice President, Association of Computing Machinery, Bradley University
1993-1994	President, Mathematical Association of America, Bradley University