Jerald Thomas

Computer Science Ph.D. Candidate

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Education

University of Minnesota — *Minneapolis, MN*

Doctorate of Philosophy in Computer Science — *June 2021*

Advisor: Dr. Evan Suma Rosenberg

University of Southern California — *Los Angeles, CA*

Masters of Science in Computer Science — *May 2018*

Advisor: Dr. Evan Suma Rosenberg

University of Minnesota, Duluth — *Duluth, MN*

Bachelors of Science in Electrical and Computer Engineering — *May 2015*

Advisor: Dr. Stan Burns

Publications

Peer Reviewed Conference and Journal Papers

Exploring Communication Modalities to Support Collaborative Guidance in Virtual Reality — *December 2020*

F. Wu, J. Thomas, S. Chinnola, E.S. Rosenberg

ACM Conference on Artificial Reality and Telexistence and the Eurographics Symposium on Virtual Environments

Towards Physically Interactive Virtual Environments: Reactive Alignment with Redirected Walking — *November 2020*

J. Thomas, C.H. Pospick, E.S. Rosenberg — ***Best Paper Award***

ACM Conference on Virtual Reality Systems and Technologies

Level of immersion affects spatial learning in virtual environments: results of a three-condition within-subjects study with long inter-session intervals — *February 2020*

K. Pollard, A. Oiknine, B. Files, A. Sinatra, D. Patton, M. Ericson, J. Thomas, P. Khooshabeh

Springer Journal on Virtual Reality

Same task, different place: Developing novel simulation environments with equivalent task difficulties — *July 2019*

B.T. Files, A.H. Oiknine, J. Thomas, P. Khooshabeh, A.M. Sinatra, K.A. Pollard

Conference on Applied Human Factors and Ergonomics

A General Reactive Algorithm for Redirected Walking Using Artificial Potential Functions — *March 2019*

J. Thomas, E.S. Rosenberg

IEEE Conference on Virtual Reality and 3D User Interfaces

Assessing the quantitative and qualitative effects of using mixed reality for operational decision making — *November 2018*

M. Dennison, J. Thomas, T.T. Trout, E.S. Rosenberg

International Command and Control Research and Technology Symposium

Effects of Personalized Avatar Texture Fidelity on Identity Recognition in Virtual Reality — *November 2017*

J. Thomas, M. Azmandian, S. Grunwald, D. Le, D. Krum, S. Kang, E. Suma Rosenberg

ACM Conference on Artificial Reality and Telexistence and the Eurographics Symposium on Virtual Environments

Revisiting detection thresholds for redirected walking: combining translation and curvature gains *July 2016*

T. Grechkin, J. Thomas, M. Azmandian, M. Bolas, E. Suma

ACM Symposium on Applied Perception

Peer Reviewed Conference Workshop Papers

Reactive Alignment of Virtual and Physical Environments Using Redirected Walking *March 2020*

J. Thomas, E.S. Rosenberg

IEEE Conference on Virtual Reality and 3D User Interfaces, Workshop on Everyday VR

Exploring Communication Modalities to Support Collaborative Guidance in Virtual Reality *March 2020*

F. Wu, J. Thomas, S. Chinnola, E.S. Rosenberg

IEEE Conference on Virtual Reality and 3D User Interfaces, Workshop on Simulated Training in Extended Reality

Defense Conference Papers

Collaborative mixed reality (MxR) and networked decision making *April 2018*

T. Trout, S. Russel, A. Harrison, R.Spicer, E.S. Rosenberg, and J. Thomas

SPIE Next Generation Analyst VI

Other Publications

RED: A Real-Time Datalogging Toolkit for Remote Experiments *March 2021*

S. Adeniyi, E.S. Rosenberg, J. Thomas *To Appear*

Poster at IEEE Conference on Virtual Reality

Strafing Gain: A Novel Redirected Walking Technique *October 2019*

C. You, E.S. Rosenberg, J. Thomas

Poster at ACM Symposium on Spatial User Interfaces

Leveraging Configuration Spaces and Navigation Functions for Redirected Walking *March 2018*

J. Thomas

Doctoral Consortium at IEEE Conference on Virtual Reality and 3D User Interfaces

MuVR: A Multi-user Virtual Reality Platform *March 2014*

J. Thomas, R. Bashyal, S. Goldstein, E. Suma

Poster at IEEE Conference on Virtual Reality

Effectiveness of commodity BCI devices as means to control an immersive virtual environment *July 2013*

J. Thomas, S. Jungst, and P. Willemsen

Poster at ACM Symposium on Spatial User Interfaces

Experience

University of Minnesota — *January 2021 to Present*

Instructor Teaching Assistant — *Minneapolis, MN*

- Design and implement class assessments including labs, projects, and quizzes
- Teach lectures
- Manage a team of graduate and undergraduate TAs

University of Minnesota — *August 2018 to December 2020*

Graduate Research Assistant — *Minneapolis, MN*

- Help design, implement, and run user studies
- Assist with supervision and mentorship of undergraduate and masters level lab members

Army Research Labs — *May 2017 to May 2018*

Intern — *Playa Vista, CA*

- Developed virtual environments and platforms for experiments
- Helped design human subject studies

University of Southern California — *August 2016 to December 2016*

Teaching Assistant — *Los Angeles, CA*

- Helped students with class work
- Led lab sections

University of Southern California — *August 2015 to July 2018*

Graduate Research Assistant — *Los Angeles, CA*

- Helped design, implement, and run user studies
- Assisted with lab demonstrations

Sony Interactive Entertainment America | Play Station — *Summer 2016*

Summer Intern — *San Mateo, CA*

- Worked within the R&D Magic Lab group to prototype novel user interactions
- Filled many roles including 3D printed design, asset design, and game design

USC Institute for Creative Technologies — *Summer 2015*

Summer Intern — *Playa Vista, CA*

- Created mobile VR platform for use at SIGGRAPH Emerging Technologies exhibit
- Converted existing redirected walking demo to be used with mobile platform
- Ran demonstrations at SIGGRAPH Emerging Technologies exhibit
- Helped design and implement two user studies

USC Institute for Creative Technologies — *Summer 2013*

Summer REU Intern — *Playa Vista, CA*

- Co-created MuVR (Multi-user Virtual Reality) platform
- Lead hardware integration and networking efforts
- Created basic game assets

University of Minnesota, Duluth — *September 2012 to May 2014*

Undergraduate Research Assistant — *Duluth, MN*

- Contributed to the development of Quic Energy, an urban radiation simulation project
- Helped parallelize project using Nvidia architecture
- Introduced new features with personal research interests in mind

Classes Taught

CSCI 1913: Introduction to Algorithms, Data Structures, and Program Development — *Spring 2021*

University of Minnesota

Professional Service

Streaming Chair *March 2020*

IEEE Conference on Virtual Reality and 3D User Interfaces

Student Volunteer Chair *March 2019*

IEEE Conference on Virtual Reality and 3D User Interfaces

Student Volunteer *March 2018*

IEEE Conference on Virtual Reality and 3D User Interfaces

Student Volunteer *March 2017*

IEEE Conference on Virtual Reality and 3D User Interfaces

FIRST Regional Referee *March 2014, 2015*

Duluth FIRST Regional Competition

FIRST Mentor *August 2011 to March 2015*

Denfeld High School

Electrical Engineering Summer Camp Volunteer *Summer 2012, 2014*

UMD EE Summer Camp