

Jerald Thomas

COMPUTER SCIENCE PH.D. CANDIDATE

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Education

University of Minnesota

DOCTORATE OF PHILOSOPHY IN COMPUTER SCIENCE

Advisor: Dr. Evan Suma Rosenberg

Minneapolis, MN

June 2021

University of Southern California

MASTERS OF SCIENCE IN COMPUTER SCIENCE

Advisor: Dr. Evan Suma Rosenberg

Los Angeles, CA

May 2018

University of Minnesota, Duluth

BACHELORS OF SCIENCE IN ELECTRICAL AND COMPUTER ENGINEERING

Advisor: Dr. Stan Burns

Duluth, MN

May 2015

Publications

Peer Reviewed Conference and Journal Papers

[1] Exploring Communication Modalities to Support Collaborative Guidance in Virtual Reality

F. WU, J. THOMAS, S. CHINNOLA, E.S. ROSENBERG

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

December 2020

[2] Towards Physically Interactive Virtual Environments: Reactive Alignment with Redirected Walking

J. THOMAS, C.H. POSPICK, E.S. ROSENBERG

ACM Conference on Virtual Reality Systems and Technologies (26% acceptance)

November 2020

Best Paper Award

[3] Level of immersion affects spatial learning in virtual environments: results of a three-condition within-subjects study with long inter-session intervals

K. POLLARD, A. OIKNINE, B. FILES, A. SINATRA, D. PATTON, M. ERICSON, J. THOMAS, P. KHOOSHABEH

Springer Journal on Virtual Reality (3.634 impact factor)

February 2020

[4] Same task, different place: Developing novel simulation environments with equivalent task difficulties

B.T. FILES, A.H. OIKNINE, J. THOMAS, P. KHOOSHABEH, A.M. SINATRA, K.A. POLLARD

Conference on Applied Human Factors and Ergonomics

July 2019

[5] A General Reactive Algorithm for Redirected Walking Using Artificial Potential Functions

J. THOMAS, E.S. ROSENBERG

IEEE Conference on Virtual Reality and 3D User Interfaces (21% acceptance)

March 2019

[6] Assessing the quantitative and qualitative effects of using mixed reality for operational decision making

M. DENNISON, J. THOMAS, T.T. TROUT, E.S. ROSENBERG

International Command and Control Research and Technology Symposium

November 2018

[7] Effects of Personalized Avatar Texture Fidelity on Identity Recognition in Virtual Reality

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 (51% acceptance)

November 2017

[8] Revisiting detection thresholds for redirected walking: combining translation and curvature gains

T. GRECHKIN, J. THOMAS, M. AZMANDIAN, M. BOLAS, E. SUMA
ACM Symposium on Applied Perception

July 2016

Peer Reviewed Conference Workshop Papers

[9] Reactive Alignment of Virtual and Physical Environments Using Redirected Walking

J. THOMAS, E.S. ROSENBERG
IEEE Conference on Virtual Reality and 3D User Interfaces, Workshop on Everyday VR

March 2020

[10] Exploring Communication Modalities to Support Collaborative Guidance in Virtual Reality

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

March 2020

Defense Conference Papers

[11] Collaborative mixed reality (MxR) and networked decision making

T. TROUT, S. RUSSEL, A. HARRISON, R. SPICER, E.S. ROSENBERG, AND J. THOMAS
SPIE Next Generation Analyst VI

April 2018

Other Publications

[12] RED: A Real-Time Datalogging Toolkit for Remote Experiments

S. ADENIYI, E.S. ROSENBERG, J. THOMAS
Poster at IEEE Conference on Virtual Reality

March 2021
To Appear

[13] Strafing Gain: A Novel Redirected Walking Technique

C. YOU, E.S. ROSENBERG, J. THOMAS
Poster at ACM Symposium on Spatial User Interfaces

October 2019

[14] Leveraging Configuration Spaces and Navigation Functions for Redirected Walking

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

March 2018

[15] MuVR: A Multi-user Virtual Reality Platform

J. THOMAS, R. BASHYAL, S. GOLDSTEIN, E. SUMA
Poster at IEEE Conference on Virtual Reality

March 2014

[16] Effectiveness of commodity BCI devices as means to control an immersive virtual environment

J. THOMAS, S. JUNGST, AND P. WILLEMSSEN
Poster at ACM Symposium on Spatial User Interfaces

July 2013

Awards

Best Paper - ACM Conference on Virtual Reality Systems and Technology

"TOWARDS PHYSICALLY INTERACTIVE VIRTUAL ENVIRONMENTS: REACTIVE ALIGNMENT WITH REDIRECTED WALKING"

November 2020

Experience

University of Minnesota

INSTRUCTOR TEACHING ASSISTANT

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

January 2021 to Present

Minneapolis, MN

University of Minnesota

GRADUATE RESEARCH ASSISTANT

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

August 2018 to December 2020

Minneapolis, MN

Army Research Labs

INTERN

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

May 2017 to May 2018

Playa Vista, CA

University of Southern California

TEACHING ASSISTANT

- Helped students with class work
- Led lab sections

August 2016 to December 2016

Los Angeles, CA

University of Southern California

GRADUATE RESEARCH ASSISTANT

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

August 2015 to July 2018

Los Angeles, CA

Sony Interactive Entertainment America | Play Station

SUMMER INTERN

- 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

Summer 2016

San Mateo, CA

USC Institute for Creative Technologies

SUMMER INTERN

- 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

Summer 2015

Playa Vista, CA

USC Institute for Creative Technologies

SUMMER REU INTERN

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

Summer 2013

Playa Vista, CA

University of Minnesota, Duluth

UNDERGRADUATE RESEARCH ASSISTANT

- 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

September 2012 to May 2014

Duluth, MN

Classes Taught

CSCI 1913: Introduction to Algorithms, Data Structures, and Program Development

UNIVERSITY OF MINNESOTA, 96 STUDENTS

Spring 2021

Professional Service

Streaming Chair

IEEE CONFERENCE ON VIRTUAL REALITY AND 3D USER INTERFACES

March 2020

Student Volunteer Chair

IEEE CONFERENCE ON VIRTUAL REALITY AND 3D USER INTERFACES

March 2019

Student Volunteer

IEEE CONFERENCE ON VIRTUAL REALITY AND 3D USER INTERFACES

March 2018

Student Volunteer

IEEE CONFERENCE ON VIRTUAL REALITY AND 3D USER INTERFACES

March 2017

FIRST Regional Referee

DULUTH FIRST REGIONAL COMPETITION

March 2014, 2015

FIRST Mentor

DENFELD HIGH SCHOOL

August 2011 to March 2015

Electrical Engineering Summer Camp Volunteer

UMD EE SUMMER CAMP

Summer 2012, 2014