

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

December 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

Awards and Honors

Computing Innovation Fellowship Recipient

POSTDOCTORAL POSITION AT VIRGINIA TECH ADVISED BY DR. DOUG BOWMAN

January 2022

Best Paper - ACM Conference on Virtual Reality Systems and Technology

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

November 2020

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. SUMA 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. HUTTON POSPICK, E. SUMA 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. SUMA 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

November 2018

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

International Command and Control Research and Technology Symposium

[7] 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 (51% acceptance)

[8] 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

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

March 2020

J. THOMAS, E. SUMA ROSENBERG

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

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

March 2020

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

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

Defense Conference Papers

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

April 2018

T. TROUT, S. RUSSEL, A. HARRISON, R. SPICER, E. SUMA ROSENBERG, AND J. THOMAS

SPIE Next Generation Analyst VI

Other Publications

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

March 2021

S. ADENIYI, E. SUMA ROSENBERG, J. THOMAS

Poster at IEEE Conference on Virtual Reality and 3D User Interfaces

[13] Strafing Gain: A Novel Redirected Walking Technique

October 2019

C. YOU, E. SUMA ROSENBERG, J. THOMAS

Poster at ACM Symposium on Spatial User Interfaces

[14] 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

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

March 2014

J. THOMAS, R. BASHYAL, S. GOLDSTEIN, E. SUMA

Poster at IEEE Conference on Virtual Reality

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

July 2013

J. THOMAS, S. JUNGST, AND P. WILLEMSSEN

Poster at ACM Symposium on Spatial User Interfaces

Research and Teaching Experience

University of Minnesota

INSTRUCTOR TEACHING ASSISTANT

January 2021 to May 2021

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

GRADUATE RESEARCH ASSISTANT

August 2018 to December 2020

Minneapolis, MN

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

Army Research Labs

INTERN

May 2017 to May 2018

Playa Vista, CA

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

University of Southern California

TEACHING ASSISTANT

August 2016 to December 2016

Los Angeles, CA

- Helped students with class work
- Led lab sections

University of Southern California

GRADUATE RESEARCH ASSISTANT

August 2015 to July 2018

Los Angeles, CA

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

Sony Interactive Entertainment America | Play Station

SUMMER INTERN

Summer 2016

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 INTERN

Summer 2015

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 REU INTERN

Summer 2013

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

UNDERGRADUATE RESEARCH ASSISTANT

September 2012 to May 2014

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, 96 STUDENTS

Invited Presentations

Computer Science and Engineering Colloquium

UNIVERSITY OF MINNESOTA

October 2021

Hi5 Summer Seminar Series

UNIVERSITY OF MISSISSIPPI

July 2020

Professional Service

Volunteer Experience

Program Committee Member

IEEE CONFERENCE ON VIRTUAL REALITY AND 3D USER INTERFACES

March 2022

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

Peer Review Experience

ACM Conference on Computer Graphics and Interaction Techniques (SIGGRAPH)

CONFERENCE PROCEEDINGS

ACM Conference on Human Factors in Computing Systems (CHI)

CONFERENCE PROCEEDINGS

ACM Symposium on Spatial User Interfaces

CONFERENCE PROCEEDINGS

ACM Symposium on User Interface Software and Technology

CONFERENCE PROCEEDINGS

ACM Symposium on Virtual Reality Systems and Technologies

CONFERENCE PROCEEDINGS

Elsevier Virtual Reality and Intelligent Hardware

JOURNAL

Eurographics Conference on Visualization

CONFERENCE PROCEEDINGS

Frontiers in Virtual Reality

JOURNAL

IEEE Conference on Virtual Reality and 3D User Interfaces

CONFERENCE PROCEEDINGS

IEEE International Symposium on Mixed and Augmented Reality

CONFERENCE PROCEEDINGS

IEEE Transactions on Visualization and Computer Graphics

JOURNAL

Springer Virtual Reality

JOURNAL