

Jerald Thomas

CIF POSTDOCTORAL RESEARCHER

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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

CRA/CCC Computing Innovation Fellow

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

Ph.D. Merit Top-off Fellow

USC VITERBI SCHOOL OF ENGINEERING

August 2015

Publications

Peer Reviewed Conference and Journal Papers

[1] Inverse Kinematics Assistance for the Creation of Redirected Walking Paths (To Appear)

J. THOMAS, S. YONG, E.S. ROSENBERG

IEEE International Symposium on Mixed and Augmented Reality (21% Acceptance Rate)

October 2022

[2] Strafing Gain: Redirecting Users One Diagonal Step At A Time (To Appear)

C. YOU, B. BENDA, E.S. ROSENBERG, E. RAGAN, B. LOK, J. THOMAS

IEEE International Symposium on Mixed and Augmented Reality (21% Acceptance Rate)

October 2022

[3] Validating Simulation-Based Evaluation of Redirected Walking Systems

A. AZMANDIAN, R. YAHATA, T. GRECHKIN, J. THOMAS, E.S. ROSENBERG

IEEE Transactions on Visualization & Computer Graphics

March 2022

[4] 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

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

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

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

November 2020

Best Paper Award

[6] 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

[7] 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

[8] 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

[9] 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

[10] 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.S. ROSENBERG
ACM Conference on Artificial Reality and Telexistence and the Eurographics Symposium on Virtual Environments (51% acceptance)

November 2017

[11] 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

[12] 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

[13] 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

[14] 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

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

S. ADENIYI, E.S. ROSENBERG, J. THOMAS
Poster at IEEE Conference on Virtual Reality and 3D User Interfaces

March 2021

[16] Strafing Gain: A Novel Redirected Walking Technique

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

October 2019

[17] 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

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

March 2014

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

Poster at IEEE Conference on Virtual Reality

[19] 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

Selected Research and Teaching Experience

Virginia Tech.

January 2022 to Present

POSTDOCTORAL RESEARCHER

Blacksburg, VA

- Propose and perform novel research in AR/VR areas
- Mentor and manage graduate and undergraduate students
- Teach a course as the instructor of record

University of Minnesota

August 2021 to December 2021

GRADUATE TEACHING ASSISTANT

Minneapolis, MN

- Hold office hours to help students firmly grasp the course concepts as well as aid with assignments
- Grade assignments and other assessments
- Assist the professor in course content creation

University of Minnesota

January 2021 to May 2021

INSTRUCTOR TEACHING ASSISTANT (INSTRUCTOR OF RECORD)

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

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

Classes Taught

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

Spring 2021

UNIVERSITY OF MINNESOTA, 96 STUDENTS

CS 2506: Computer Organization II

Summer 2022

VIRGINIA TECH, 60 STUDENTS

Invited Presentations

CS5754 Virtual Environments Guest Lecture

VIRGINIA TECH

February 2022

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 2023

Video Chair

IEEE CONFERENCE ON VIRTUAL REALITY AND 3D USER INTERFACES

March 2023

Special Topic Coordinator and Guest Editor

FRONTIERS IN VIRTUAL REALITY

August 2022

Program Committee Member

IEEE SYMPOSIUM ON AUGMENTED AND MIXED REALITY

October 2022

Program Committee Member

IEEE CONFERENCE ON VIRTUAL REALITY AND 3D USER INTERFACES

March 2022

Conference Session Chair

ACM SYMPOSIUM ON SPATIAL USER INTERFACES

October 2020

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