

Haley Alexander Adams

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Research Interests

PERCEPTION | VIRTUAL & AUGMENTED REALITY | HUMAN-COMPUTER INTERACTION | VISUALIZATION

Education

Ph.D. in Computer Science

VANDERBILT UNIVERSITY | NASHVILLE, TN, USA

2016 - present

ADVISOR: BOBBY BODENHEIMER

B.Sc. in Computer Science

RHODES COLLEGE | MEMPHIS, TN, USA

2011 - 2015

ADVISOR: BETSY WILLIAMS SANDERS

Exchange Student in Information and Communication Technology

GRIFFITH UNIVERSITY | SOUTHPORT, QLD, AUSTRALIA

2014

Research & Industry Experience

Research Assistant

DEPARTMENT OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCE

Vanderbilt University

2018 - present

- Project 1: Assessed distance perception and action affordances with holograms in AR
- Project 2: Evaluated spatial memory of children in VR

Graduate Researcher

DEPARTMENT OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCE

Vanderbilt University

2016 - 2018

- Project 1: Tested recalibration mechanisms of children's motor systems when exposed to VR
- Project 2: Simulated visual deficits from patient data using a head-mounted display
- Project 3: Designed an interface for visualization of the ear for surgical training

Undergraduate Research Assistant

DEPARTMENT OF MATH AND COMPUTER SCIENCE

Rhodes College

2015 - 2016

- Investigated the effect of interpersonal familiarity on task performance and co-presence in VR

Interface Design/Functionality Lead

CROSSROADS TO FREEDOM DIGITAL ARCHIVE

Rhodes College

2013 - 2015

- Developed front-end interfaces for app and website
- Instructed team in new HTML and CSS frameworks

Undergraduate Research Assistant

DEPARTMENT OF COMPUTER SCIENCE

University of Minnesota

2013

- Investigated the use of immersive technology for neurocognitive assessment

Publications

Submitted

HALEY ADAMS, JUSTIN SHZINN, WILLIAM G MORREL, JACK NOBLE, AND BOBBY BODENHEIMER.

“DEVELOPMENT AND EVALUATION OF AN IMMERSIVE VIRTUAL REALITY SYSTEM FOR MEDICAL IMAGING OF THE EAR”. *SPIE: Image-Guided Procedures, Robotic Interventions, and Modeling*. [SUBMITTED]

HAOJIE WU, DANIEL ASHMEAD, **HALEY ADAMS**, AND BOBBY BODENHEIMER. “SIMULATING MACULAR DEGENERATION WITH VIRTUAL REALITY: A STREET CROSSING STUDY IN A ROUNDABOUT ENVIRONMENT”. *In Frontiers in Psychology*. 2018. [ACCEPTED]

Journal & Conference Proceedings

NOORIN ASJAD, **HALEY ADAMS**, RICHARD PARIS, AND BOBBY BODENHEIMER. "PERCEPTION OF HEIGHT IN VIRTUAL REALITY — A STUDY OF CLIMBING STAIRS". *In Proceedings of the ACM Symposium on Applied Perception (SAP)*. 2018.

HALEY ADAMS, GAYATHRI NARASIMHAM, JOHN RIESER, SARAH CREEM-REGEHR, JEANINE STEFANUCCI, AND BOBBY BODENHEIMER. "LOCOMOTIVE AND PRISM RECALIBRATION OF CHILDREN AND TEENS IN IMMERSIVE VIRTUAL ENVIRONMENTS". *IEEE Transactions on Visualization and Computer Graphics (TVCG)*. 2018.

HAOJIE WU, DANIEL ASHMEAD, **HALEY ADAMS**, AND BOBBY BODENHEIMER. "3D SOUND RENDERING IN A VIRTUAL ENVIRONMENT TO EVALUATE PEDESTRIAN STREET CROSSING DECISIONS AT A ROUNDABOUT". *IEEE VR Workshop on Sonic Interactions for Virtual Environments (SIVE)*. 2018.

HANNAH CHIPMAN, **HALEY ADAMS**, BETSY WILLIAMS SANDERS, D BRIAN LARKINS "EVALUATING COMPUTER SCIENCE CAMP TOPICS IN INCREASING GIRLS' CONFIDENCE IN COMPUTER SCIENCE". *Journal of Computing Sciences in Colleges*. 2018.

ERIN MINDELL CANNON, PRIYA CHAWLA, KATHERINE LO, AND **HALEY ADAMS**. "IGNITECS: ADDRESSING UNDERGRADUATE CS RETENTION". *In Proceedings of the 47th ACM Technical Symposium on Computing Science Education (SIGCSE)*. 2016.

Presentations

GAYATHRI NARASIMHAM, **HALEY ADAMS**, JOHN RIESER, SARAH CREEM-REGEHR, JEANINE STEFANUCCI, AND BOBBY BODENHEIMER. "SPATIAL MEMORY OF CHILDREN AND TEENS IN IMMERSIVE VIRTUAL ENVIRONMENTS". *In Proceedings of the ACM Symposium on Applied Perception (SAP)*. 2018.

ALEX AYRIS, RICHARD PARIS, AND **HALEY ADAMS**. "STEMANISM: CURRENT AND FUTURE HORIZONS OF INTERDISCIPLINARY COLLABORATION BETWEEN THE HUMANITIES, DIGITAL HUMANITIES, AND STEM". *In Proceedings of Humanities, Arts, Science, and Technology Alliance and Collaboratory (HASTAC)*. 2017.

HALEY ADAMS, CHELSEY THOMPSON, DAVID THOMAS, FARAH SHARIS, CATHERINE GRACE JERNIGAN, CORRIE MOORE, AND BETSY WILLIAMS. "THE EFFECT OF INTERPERSONAL FAMILIARITY ON COOPERATION IN A VIRTUAL ENVIRONMENT". *In Proceedings of the ACM Symposium on Applied Perception (SAP)*. 2015.

HALEY ADAMS, ALYSSA CRIDER, AND VICTORIA INTERRANTE. "VIRTUAL REALITY IMPLEMENTATION FOR NEUROCOGNITIVE ASSESSMENT". *In Proceedings of Grace Hopper Celebration of Women in Computing*. 2013.

Honors & Awards

Academic Merit Scholarship, Vanderbilt University	2016 - present
IBM Fellowship, Vanderbilt Alumni Association	2016 - present
Presidential Scholarship, Rhodes College	2011 - 2015
Best Poster, ACM Symposium on Applied Perception (SAP)	2015

Technical Skills

Programming Languages | C# · PYTHON · MATLAB · LATEX · C++ · OPENGL · HTML5 · CSS

3D and 2D Design | UNITY GAME ENGINE · PHOTOSHOP · BLENDER

Graduate Coursework

ADVANCED TOPICS IN VIRTUAL REALITY · BOBBY BODENHEIMER
IMAGE PROCESSING · ALAN PETERS
ELEMENTS OF STATISTICAL PATTERN RECOGNITION · ALAN PETERS
FUNDAMENTALS OF HUMAN/COMPUTER INTERACTION · SHILO H ANDERS
COMPUTER GRAPHICS · BOBBY BODENHEIMER
COMPUTATIONAL MENTAL IMAGERY · MAITHILEE KUNDA
DISTRIBUTED ARTIFICIAL INTELLIGENCE · JULIE A ADAMS

Teaching Experience

Department of Electrical Engineering and Computer Science

Vanderbilt University

GRADUATE TEACHING ASSISTANT

2016 - 2018

- Served as Experienced TA Panelist at Teaching Assistant Orientation, 2017
- Instructed Discrete Structures and Algorithms (CS 2212)
- Tutored in 3D modeling for Virtual Reality for Interdisciplinary Applications (UNIV 3279)

Camp Codette

Rhodes College

DIRECTOR, INSTRUCTOR

2015 - 2016

- Pioneered a summer coding program for middle and high school girls
- Designed curriculum, led team of undergraduate counselors, and instructed learning sessions
- Provided insights to Google Education and conferred pedagogical strategies for retention in CS

Service & Leadership

ACM-W Student Chapters

FOUNDING MEMBER AND OFFICER

2013 - 2017

- Provided opportunities for support and advancement through events and mentorship at Vanderbilt
- Managed panelists and event logistics for Emerge, an emerging technology symposium at Vanderbilt
- Created community and hosted events for underrepresented groups in computing at Rhodes College

IEEE VR

STUDENT VOLUNTEER

2017 - 2018

Students Mentored

TAYLOR NYE SMITH · HIGH SCHOOL STUDENT IN SCHOOL FOR SCIENCE AND MATH

2016 - 2017

NOORIN ASJAD · UNDERGRADUATE IN VANDERBILT UNIVERSITY

2017 - 2018

PETER CHO · UNDERGRADUATE IN VANDERBILT UNIVERSITY

2018 - present

NIDHI MEHTA · UNDERGRADUATE IN VANDERBILT UNIVERSITY

2018 - present

PRIYA RAJAN · UNDERGRADUATE IN VANDERBILT UNIVERSITY

2018 - present

CARLOS SALAS · HIGH SCHOOL STUDENT IN SCHOOL FOR SCIENCE AND MATH

2018 - present

HANSEN WU · UNDERGRADUATE IN VANDERBILT UNIVERSITY

2018 - present