

HIROSHI FURUYA

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UCF Trustees Doctoral Fellow

RELEVANT EXPERIENCE

National Security Innovation Network (NSIN) X-Force Fellow June 2021 - August 2021

NSIN with Naval Surface Warfare Center, Crane Division (Remote)

- Team lead for group of three undergraduate students and one volunteer
- Plan and facilitate human-centered design process to discover the right solution to support Navy sailors using EO/IR I-STALKER platform
- Develop virtual simulator training game for I-STALKER operation, using Unity and C#
- Present and pitch to both X-Force and Crane communities

UCF Trustees Doctoral Fellow August 2020 - Current

University of Central Florida (Orlando, FL)

- Advisor: Prof Gregory Welch
- Research on virtual agents for pedestrian-autonomous vehicle interactions, AR for astronaut extravehicular activities, and other AR/VR for intelligent systems HCI in safety critical domains
- Lead interdisciplinary UCF student team of over 16 students for NASA SUITS challenge

Senior Software Developer October 2018 - July 2020

MoBack, Inc., at Robotics at Google (Mountain View, CA)

- UI/UX and Software Engineering for mixed reality applications involving robotics and machine learning using Unity, object oriented programming in C# and Python, and UNIX shell
- Ownership of design, development, and operational integration support of client application features
- Usability analysis for performance improvement, incl. subjective and objective human measures
- Responsible TPM and vendor point of contact for all MoBack employees and contractors at Google

NASA Space Technology Research Fellow August 2016 - July 2018

Columbia University (New York, NY)

- Research topic: Collaborative Augmented Reality with Hands-Free Gesture Control for Remote Astronaut Training and Mentoring, advised by: Prof. Steven Feiner, Columbia University
- AR prototype development for International Space Station (ISS) stowage operations using Unity, C#
- HITL testing, HITL evaluation, and human research study design and execution with SME subjects

Arnold Engineering Development Center (AEDC) T&E Scholar June 2014 - May 2016

United States Air Force AEDC, White Oak Hypervelocity Wind Tunnel 9 (White Oak, MD)

- Designed, performed, and presented evaluations for global thermal measurement system sensors

EDUCATION AND ACCOMPLISHMENTS

University of Central Florida

PhD. Computer Science

UCF Trustees Doctoral Fellow

August 2020 - Current

GPA 3.9/4.0

2020 - Current

M.S. Computer Science, Columbia University

2018

B.S. Aerospace Engineering, University of Maryland

2016

Future Space Leaders Foundation Fellow

2018

NASA Space Technology Research Fellow

August 2016 - July 2018

University of Maryland Banneker/Key Scholar

August 2012 - May 2016

PUBLICATIONS AND PRESENTATIONS

Hiroshi Furuya, Kangsoo Kim, Gerd Bruder, Pamela J. Wisniewski, and Greg Welch. 2021. Autonomous Vehicle Visual Embodiment for Pedestrian Inter-actions in Crossing Scenarios: Virtual Drivers in AVs for Pedestrian Crossing. In *CHI Conference on Human Factors in Computing Systems Extended Abstracts (CHI '21 Extended Abstracts)*, May 08–13, 2021, Yokohama, Japan. ACM, New York, NY, USA, 7 pages. <https://doi.org/10.1145/3411763.3451626>

Hiroshi Furuya, Lui Wang, Carmine Elvezio, and Steven Feiner. 2018. A Comparative Ground Study of Prototype Augmented Reality Task Guidance for International Space Station Stowage Operations. In *Proc. 69th International Astronautical Congress (69th IAC)*, October 01-05, 2018, Bremen, Germany. International Astronautical Federation Paris, France, 5785-5795.

Hiroshi Furuya, Lui Wang, Carmine Elvezio, and Steven Feiner. 2018. Augmented reality task guidance for international space station stowage operations. In *ACM SIGGRAPH 2018 Virtual, Augmented, and Mixed Reality (SIGGRAPH '18)*. ACM, New York, NY, USA, Article 4, 1. <https://doi.org/10.1145/3226552.3226579>

PERSONAL INTERESTS AND EXPERIENCES

Graduate research mentor for UCF undergraduate F-LEARN program, volunteer Sunday school teacher and youth minister for children in the Diocese of San Jose and the Archdiocese of New York, volunteer for educational field trip programs for underserved children in NYC with Columbia Community Impact, food pantry volunteer in NYC, co-founder of non-profit Project Delta at UMD to solve technical problems for int'l non-profits, STEM volunteer instructor for Elementary School students in Montgomery County MD.