

Newman Hu

hu.newman@berkeley.edu | 408-607-0752 | www.linkedin.com/in/newmanhu/

Experience

Software Engineering Intern, Repl.it (2021)

- Improving security for hosting on the Repl.it platform and expanding computational resources for customers.

Software Engineer, XR LAB at Berkeley (2020)

- Created a new platform for collaboration and virtual learning for the architecture department. Designed and implemented the interface and system for sharing and experiencing 3D architecture models.

Researcher, FHL Vive Center for Enhanced Reality (2020)

- Improved VR and ROS infrastructure for the Immersive Semi-Autonomous Aerial Command System (ISAACS) project used to remotely pilot drones. Co-author of research paper submitted to the 2020 IEEE Nuclear Science Symposium and Medical Imaging Conference.

Software Engineering Intern, SICK Sensor Intelligence (2019)

- Pioneered an augmented reality data visualization tool for tamper detection of packages in the warehouse and factory environment. My project integrates SICK's logistics analytics service with the Android augmented reality platform. I also designed an analytics service for tamper detection on packages shipped across various facilities.

Research Intern, Stanford Linear Accelerator Center (2015-18)

- 2018: Investigated sideband detection methods for self-amplified spontaneous emission free-electron lasers (SASE FEL), developed software models for a thin crystal spectrometer, and expanded project on AI assisted diagnosis of Alzheimer's.
- 2016: Produced research about the automated early stage diagnosis of Alzheimer's use machine learning and image processing. I partnered with neurologists and physicians from the Alzheimer's Association.
- 2015: Conducted research on artificial intelligence optimization for an X-Ray free electron laser and gained experience developing neural networks built with the PyBrain library.

Desktop Consultant, UC Berkeley Student Affairs IT (2018)

- Provided technical support to all student affairs staff at the UC Berkeley campus. My team supported the desktops, laptops, printers, and iPads used by departments such as the Financial Aid and Scholarship Office, Career Center, Administration, Communications, and many more.

Extracurriculars

Extended Reality at Berkeley (XR@B)

VR Education Lead (2020)

- Lead for XR@B's student led virtual reality and augmented reality development course. Developed new mobile AR curriculum material. Taught students practical Unity skills with Oculus SDK and AR Foundations.

Balloon - Autonomous Intelligent Retrieval (2019)

- Designed and programmed [B-AIR](#) which combines the Turtlebot platform, a RealSense depth camera, and a high-powered case fan to autonomously track, follow, and levitate a falling balloon.

Education

University of California Berkeley

BS, Electrical Engineering and Computer Science (Class of 2021)
GPA: 3.519

Relevant coursework

UI Design | Algorithms and Intractable Problems | Computer Graphics | Artificial Intelligence | Machine Learning | Robotics | Operating Systems and System Programming | Probability and Random Processes | Data Structures | Machine structures | Discrete Math and Probability | Signals and Systems | Linear Algebra | Multivariable Calculus

Publication & Patent

- Co-Author: Hu, Newman. **Immersive Operation of a Semi-Autonomous Aerial Platform for Detecting and Mapping Radiation.** *2020 IEEE Nuclear Science Symposium and Medical Imaging Conference*
- Co-Author: Hu, Newman. **Multi-dimensional optimization of a terawatt seeded tapered Free Electron Laser with a Multi-Objective Genetic Algorithm.** *Nuclear Instruments and Methods in Physics Research A 846* (2017) 56–63
- Patent: Hu, Newman. 2016. *Domestic and industrial robot.* U.S. Patent D759,741, filed October 9, 2014 and issued June 21, 2016.

Technical Proficiency

github.com/Huw-man

- Python, Go, Java, C++, C, C#, Javascript