Everett Key

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TECHNICAL SKILLS & INTERESTS

Technical Skills: Python [Pytorch, Numpy, Matplotlib, Pandas] | C++ | Matlab | R | SolidWorks | Fusion360
Exams: Certified SolidWorks Professional | Fundamentals of Engineering Exam | Uniform Investment Adviser Law Exam

WORK EXPERIENCE

Meta Reality Labs, Wearable Camera **2022 – 2023**
Systems Engineer Burlingame, California

- Created a controller interface for 6+ fusion algorithms, providing developers with modularity and maintainability.
- Reduced camera capture time by 300ms during a production event; expended testing tools for efficient incident investigation.
- Winner of an internal hackathon, invented a new way of taking panoramas with wearable cameras as a team.

FullRing Technology, Trackwork Construction & Design **September 2019 – August 2020**
Systems Engineer & Technician Taichung City, Taiwan

- Established a custom-built railway assessment system which decreased both costs and set up time by 95%.
    - Developed a sensor prototype by integrating Gyro-Accelerometer with a GPS receptor.
    - Designed a data visualization and interaction GUI using PyQt, NumPy, Matplotlib, and Google Earth.
    - Verified results by generating verification data through surveying 55 km of mountain railway from sea level to 7000 feet .
- Designed, manufactured, and installed lifting brackets to support historic locomotives weighing over 28 tons.

Los Alamos National Laboratory, National Security **July 2014 – September 2018**
Research Engineer Los Alamos, New Mexico

- Developed a customized traffic monitoring algorithm with 95% accuracy under significant security and resolution constraints.
- Detonate explosives in the Nevada desert to collect high speed camera images to verify hydrodynamic physics simulation models.

PROJECTS

Electric Aircraft Industry Adoption (General Electric)

- Tabulated 31 EAV companies into a list of potential partners for GE's testing facilities.
- Received General Electric Spring 2021 Dare to Lead award along with 4 other teammates.

Minitorch (Cornell Tech)

- Developed a tensor class for training both feedforward and convolutional neural networks on CPU and GPU backends.
- Implemented the training workflows to include backpropagation featuring GPU acceleration using Numba and Cuda.

Autonomous Truck Mapping and Tracking (PACCAR)

- Utilized Simultaneous Localization and Tracking (SLAM) and Adaptive Monte Carlo Localization (AMCL) to develop Paccar (truck company)'s first spatial localization and mapping pipeline using the Robot Operating System (ROS) on Linux.
- Overcame scarce landmarking to generate Paccar's initial test track map using LIDAR imaging.

Commercial Aircraft Structural Engineering - Empennage Repair (Boeing)

- Investigated empennage damage, proposed repair plan in collaboration with Boeing liaison.

ACTIVITIES

FIRST Robotics Competition, Team 4153 **January 2014 - June 2016**

- Designed and produced working drawings of 120+ components using SolidWorks. Mentored local high school with CAD.

EDUCATION

Cornell Tech | Cornell University **August 2020 - July 2021**
Master of Engineering New York City

- **Awards:** Cornell Tech ECE Merit Scholarship

University of Washington **September 2016 - June 2019**
B.S. in Mechanical Engineering Seattle

- **Awards:** Dean's List 2018, 19 | J. Robert Oppenheimer Scholarship | UW Purple and Gold Scholarship | LANL Scholarship