

Everett Key

San Mateo, CA | 505-577-7093 | everett.k.key@gmail.com
Website: EverettKey.com | LinkedIn: [Everett-Key](https://www.linkedin.com/company/everett-key) | GitHub: [EverettKey](https://github.com/everettkey)

TECHNICAL SKILLS

Technical Skills: Python [Pytorch, Numpy, Matplotlib, Pandas] | C++ | Matlab | R | SolidWorks | Fusion360 | Julia

Exams: Certified SolidWorks Professional | NCEES Fundamental of Engineering (Mechanical) Exam

WORK EXPERIENCE

Meta Reality Labs, Wearable Camera

2022 – 2023

Systems Engineer

Burlingame, California

- Designed a camera controller interface managing 6+ image fusion algorithms, providing modularity to the image capture pipeline.
- Reduced image capture time by 300ms during a production event; expended testing tools for efficient future investigation.
- Winning an internal hackathon by inventing a new way of taking panoramas with wearable cameras.

FullRing Technology, Trackwork Construction & Design

2019 – 2020

Systems Engineer & Technician

Taichung City, Taiwan

- Established a custom railway assessment system that has 95% less cost and overhead as compared to the legacy method.
 - Prototyped a ride quality sensor by integrating commercially available Gyro-Accelerometer, GPS, and Arduino.
 - Developed a sensor control UI/UX that also provides aerial visualization of railtrack health maps.
 - Studied product feasibility by field testing sensor through 55 km of mountain railway from sea level to 7000 feet.
- Designed, manufactured, and installed non-abrasive lifting brackets that support delicate 28 ton historic locomotives.
- Overcame harsh terrain and unpredictable weather to survey and maintain the beautiful Alishan Historical Forest Railway.

Los Alamos National Laboratory, National Security

2014 – 2018

Research Engineer

Los Alamos, New Mexico

- Developed and evaluated traffic monitoring algorithms achieving 95% accuracy under strict security and resolution constraints.
- Detonated explosives in the Nevada Test Site to collect high speed photos for verifying hydrodynamic simulation models.

PROJECTS

Swarm System (Biologically Inspired Multi-Agent)

Cornell Collective Embodied Intelligence Lab

- Developed and evaluated methods of deep neuroevolution and reinforcement learning for emergent control of foraging stigmergy in multi-agent swarms.

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.
- Navigated through scarce landmarking to generate Paccar's initial test track map using LIDAR imaging.

CAD Lead & Team Mentor

FIRST Robotics Competition

- Created 120+ detailed working drawings with manufacturing specifications and actively supervised the quality control processes.

Commercial Aircraft Structural Engineering - Empennage Repair

Boeing

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

Electric Aircraft Industry Adoption

General Electric Aviation

- Evaluated 31 EAV companies and presented them as potential partners for GE's engine testing facilities.
- Received General Electric Spring 2021 Dare to Lead award as a 5 person team.

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.

EDUCATION

Cornell Tech at Cornell University | *M.Eng. in Electrical and Computer Engineering*

2020 - 2021

Awards: Cornell Tech ECE Merit Scholarship

Notable Coursework: Swarm Robotics | Digital Signal Processing | Interactive Device Design | Intelligent Autonomous System

University of Washington | *B.S. in Mechanical Engineering*

2015 - 2019

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

Notable Coursework: System Dynamics | Computer Aided Design | Manufacturing Processes