

Erik Meike

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Employment

WATNEY ROBOTICS - MAY 2025 - SEPT 2025 (FULL TIME EMPLOYMENT)

Founding Engineer - Revamped robot electrical architecture and designed one major PCB revision per week totaling ~12 significant boards. Brought up EtherCAT stack from zero to running on custom hardware. Flew to China for three weeks to bring up new robot platform on our factory line. Wrote drivers for robot systems in Rust. Cleaned up countless intermittent system issues in inherited platform. Redesigned teleop electrical systems twice to address changing needs.

APPLE - AUGUST 2021 - MAY 2025 (FULL TIME EMPLOYMENT) SUMMER 2019, 2020 (INTERNSHIPS)

Engineer - Worked on products including iPhone Air MagSafe Battery. Arrived at unique contrarian solutions based on cross disciplinary understanding of chemistry, physics, electrical engineering, software, data analysis and more to increase system performance by 60%. Drove the new change across many groups and international teams until solution was implemented and became a key product feature on the front page of marketing materials. Played key role in designing, building and programming automated robotic iPhone wireless charging test system now used broadly to find root cause.

JITX - SUMMER 2018 (INTERNSHIP)

Four person startup creating automated PCB design system. Created 27 new parameterized designs including power converters and processors.

PRENAV - SUMMER 2016, 2017 (INTERNSHIPS)

Software development, hardware design, CAD for autonomous quadcopter monitoring startup. Designed/implemented timing critical RTOS systems.

QUICKLOGIC - SUMMER 2015 (INTERNSHIP)

Created sensor fusion system for S3 FPGA using ultra low power accelerometer, magnetometer, and controllable GPS. Wrote sensor fusion algorithms.

Education

Harvey Mudd College Class of 2021 with distinction. Major: Engineering with Environmental Analysis emphasis.

Relevant Coursework: Microprocessor Sys:Design & Applications, Computer Systems, Electronic and Magnetic Circuits and Devices, Autonomous Vehicle State Estimation, File Systems, Data Structures and Program Development, RF Circuit design, Advanced Eng Thermodynamics, Material Science of Energy Conversion and Storage, Chemical and Thermal Processes, High Power Rocketry, Materials Eng, Experimental Eng, Eng Systems

The Nueva School Class of 2017. Founding class. Relevant courses: Machine Learning, Functional Programming, Design Thinking

Select Skills: Python, C++, Docker, Rust, EasyEDA, KiCad, EtherCAT, Grafana, InfluxDB, Unix command line, Mathematica, Matlab, Java, Postgres, Onshape, SolidWorks, shop skills, AVR, ARM, Arduino, CAN Bus, I2C, SPI, and more

Recognition & Leadership

Apple Unsung Hero Award 2024 - Recognition of unexpected impact on a large project

HMC William P. Wiesmann Clinic Award 2021 - For demonstrating the highest level of technical competency in the Clinic Program

HMC T. Larry Norin Memorial Scholarship 2020 - For Radio Frequency communications engineering at the highest levels

HMC Rocketry Club President 2020-21, HMC Makerspace Co-Pres 2019-20, HMC Combat Robotics Co-Pres 2018-19

HMC Muddhacks Hackathon 2018 - First Place of 42 teams for automated lock project

FRC robotics team Bot-Provoking, 4904 at The Nueva School - Fall 2013 - SPRING 2017 - Founding member; numerous awards

Extra Class Ham Radio License - AI6YT - Licensed since September 2008

Papers & Patents

K Pezeshki, C Norfleet, E Meike, et al., [A Board and Projects for an FPGA/Microcontroller-Based Embedded Systems Lab](#). GLSVLSI '20: Proceedings of the 2020 on Great Lakes Symposium on VLSI. September 2020. 561–565.

Automated Path Tracking for Power Machines, C Norfleet, O Aleman, E Meike, et. al., Worldwide Patent Submitted 2021 US: 17/739,690

Select Projects

MORE EFFICIENT HVAC AND AIR QUALITY SYSTEM - PERSONAL PROJECT - 2019 TO PRESENT

Designed, simulated, and built system to eliminate the need for a compressor in most residential air conditioning systems. Working on patent (2025).

RECREATED AND TRAINED GPT2 - KARPATY ZERO TO HERO - PERSONAL PROJECT - 2023

GRID ENERGY MONITORING - PERSONAL PROJECT - 2020 TO PRESENT

Built system recording high accuracy power data from Tesla Powerwall and numerous other sensors at over 30 sensing locations inside residence. Over 500M data points collected. Data used to simulate, predict, and optimize battery usage, perform peak load shifting, and understand energy usage patterns.

HARVEY MUDD CLINIC PROGRAMS

Fall 2020 - Spring 2021 - Developed an autonomous navigation system for a Doosan Bobcat track loader

Spring 2019 - Air quality project to develop a novel type of sensor sensor to detect smoke particulates in an airplane cargo bay

HARVEY MUDD JTS (JOURNEY TO SPACE) ROCKETRY TEAM LEAD - FALL 2018 - SPRING 2021

President & Head of electronics for 70+ student group sending student-built rocket to the Karman line (the boundary between Earth and space)

HARVEY MUDD MAKERSPACE - FALL 2018 - SPRING 2020

Co-president of student-led makerspace. Redesigned electronics lab, prepared budgets, purchases, and developed maker kits for HMC student community

HARVEY MUDD ENGINEERS WITHOUT BORDERS/HAITI SOLAR LIGHTS - FALL 2018 - SPRING 2020