

# Erik Meike

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## Employment

### **APPLE - AUGUST 2021 - PRESENT (FULL TIME EMPLOYMENT) SUMMER 2019, 2020 (INTERNSHIPS)**

Engineer - Arrived at unique contrarian solution based on cross disciplinary understanding of chemistry, physics, electrical engineering, software, machine learning and more. Drove the new change across many groups with significant impact to multiple product lines. Coordinated across international teams. Designed and programmed iPhone wireless power test platform. Played key role in designing, building and programming automated robotic iPhone wireless charging test system now used broadly to find the root cause of issues.

### **JITX - SUMMER 2018 (INTERNSHIP)**

Four person startup creating automated PCB design system. Modified and extended generation tool to automatically create 27 new parameterized designs including power converters and processors

### **PRENAV - SUMMER 2016, 2017 (INTERNSHIPS)**

Software development, hardware design, CAD for autonomous quadcopter monitoring startup  
Tested/recommended laser range finding systems for 3D imaging. Designed/implemented timing critical RTOS systems

### **QUICKLOGIC - SUMMER 2015 (INTERNSHIP)**

Designed, built, and tested dead reckoning system built for S3 sensor hub platform using low power GPS location monitoring systems in wearables and mobile devices. Wrote sensor fusion algorithms, and data processing on FPGA systems.

## 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, Docker, C++, KiCad, Grafana, InfluxDB, Unix command line, Mathematica, Matlab, Java, Postgres, Fusion 360, 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 2020-2021, HMC Makerspace Co-President 2019-2020, HMC Combat Robotics Co-President 2018-2019**

**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

### **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.

### **MORE EFFICIENT HVAC SYSTEM - PERSONAL PROJECT - 2020 TO PRESENT**

Designed, simulated, and built system to eliminate the need for a compressor in most residential air conditioning systems. Currently working on patent.

### **INDOOR AIR QUALITY SENSING - PERSONAL PROJECT - 2019 TO PRESENT**

Built multiple sensor systems to analyze indoor air quality, understand impact to occupants, and detect occupant activity. Over 50M data points collected.

### **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**