MIKE THIELVOLDT
CONTRACT FIRMWARE ENGINEER

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Veteran firmware engineer with hardware experience and passion for quality and amps

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CORE PROFICIENCIES

C
Performant controls
Embedded end-to-end tests
Collaborating / educating
Python3
Git
Cmake
PIC, Atmega, STM32,
ESP32, XMC
CAN, UART, SPI

PERIPHERAL SKILLS

Linux
Battery Management
CppUTest
FreeRTOS
ES6 + React

PCB design
Mechanical design
CAD (Solidworks)
Prototyping

PATENTS

Music-reactive fire display
US8823714B1
(licensed)

Finger-operated accelerator
US9746872B2

EDUCATION

2007 Stanford University
B.S., M.S., Mechanical Eng.
Energy Systems Concentration

EXPERIENCE

Sr. Staff Firmware Engineer - Lunar Energy

Jan. 2022 – Dec 2023 | Mountain View, CA
- Wrote performance-critical control code in collaboration with controls and electrical engineering teams.
- Managed requirements, architecture, and schedule for inverter functions, including safety and seamless backup.
- Led 6-member team responsible for developing IEEE-1547 grid interoperability features.
- Created software tool used company-wide to rapidly validate and diagnose controls on deployed hardware.
- Gave frontline support to manufacturing, reliability, EMC, compliance, and system test teams throughout my tenure.

Embedded Systems Engineer - Gradient

Mar. 2021 – Jan. 2022 | San Francisco, CA
- Wrote firmware in C/C++ for heat pump product including state machine logic, data interfaces, sensing.
- Managed contractors on PCBA design and compressor drive projects: giving technical support; guiding project scope, timelines, agreements; and tracking progress.
- Debugged hardware issues and improved power and signal circuit designs to meet product requirements.

VP, Engineering - LiveSpark, Inc.

Oct. 2008 – Jul. 2018 | San Francisco, CA
Principal technical contributor for flame effect system.
- Developed firmware in C and assembly.
- Designed PCBA with spark ignition, flame supervision, RS422 network, and feedback control of fuel flow.

Co-Founder - AquaVolta LLC

Sept. 2015 – Dec. 2017 | Martinez, CA
Took rugged LED product from concept to market.
State-of-charge estimation. Nano-amps standby power.

Embedded Contractor - Brunet Ageing Research Lab - Stanford

Jul. 2017 – Sept. 2017 | Stanford, CA
Wrote firmware and designed PCBA for research-grade IoT fish feeder. Micropython, C, MQTT.

Principal Contributor - ECUality Engine Control project

Feb. 2015 – Oct. 2015 | Palo Alto, CA
Fuel injection system from a clean slate: C++ / Atmega2560
Reduced pollutants by 94%, increased mileage by 9%.