Lucy Moglia

Research Engineer based in San Francisco, CA

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SUMMARY:

Electrical engineer with robust experience in full-stack electronics development, product development, and technical research. Proven ability to manage complex projects from concept to completion. Highly self-motivated, versatile. Experienced in embedded development, PCB design, prototype development/evaluation, reverse engineering, and technical writing.

PROFESSIONAL SKILLS:

Full Stack Electronics Development:
Circuit design (KiCAD, EAGLE), PCB design/assembly, prototype development, hardware revisions, firmware development,, debugging, functional/compliance testing

Research Engineering:
Teardowns, reverse engineering (electrical + mechanical), component analysis/characterization, failure mode analysis

Rapid Prototyping and Prototype Development:
PCB milling, CAD design (Fusion360, Inventor, FreeCAD), 3D printing (FDM, SLA), CNC machining, injection molding, prototype evaluation/integration

Technical Research and Writing:
Application area and market research, technical research and report composition, test setups and demo board design, white paper composition, prototype performance and failure reports

WORK EXPERIENCE:

Research Fellow Atopile. San Francisco, CA. November 2024 - Present

Developing BLE geolocators, Meshtastic radios, flight controllers, home assistant control panels, solar chargers, and more with the atopile toolchain. Developing open-source projects for sale in small batches on platforms like tindie with atopile, such as Linux Meshtastic solar charger hats.

Research Engineering Kyocera-AVX. Fountain Inn, SC. April 2023 - August 2024

Performed teardowns on behalf of market research and engineering teams. Reverse engineered systems to produce schematics/models for engineering teams. Researched application areas and products and evaluated fitness of prototype components in target areas. Produced PCBs and demo boards for internal use be engineering staff in prototype evaluation and characterization.

Cofounder Machinic Garden LLC. Liberty, SC. October 2022 - May 2023

Small scale production of electronics kits, 3D printing, vinyl printing, laser cutting, and manufacturing service. Designed hardware/software and produced a variety of products, such as guitar pedal kits and laser drivers. Small scale manufacturing, including various forms of 3D printing, CNC machining, electroplating, and wood working.

Electronics Lab Technician Electrolux. Anderson, SC. May 2022 - February 2023

Assisted engineers in PCB and firmware development and validation, built EOL testers, performed IEC testing, performed firmware testing with LabVIEW, NI embedded PCs and custom Arduino based test hardware.

Projects:

Exhibitor at Opensauce 2024

Exhibited “Voices In the Radio” (a conversation between a number of fine tuned LLM models with tailored personalities broadcast over FM radio) and DIY bioluminescent mushroom cultivation.

Meshtastic Hardware Research

Building LoRa radio mesh network hardware and a Femtofox/Luckfox Mini solar hat, assisting in femtofox RF transmit power testing store and forward server & personal client builds

MicroMPPT

Designing a series of tiny autonomous solar battery/supercap chargers. Designs optimized for a variety of output power ratings, PV voltage and cell chemistries