Michael Liang

• mike1236@gmail.com • linkedin.com/in/mike-liang • mllelectronics.com • +1 (330) 968-0564

SKILLS

- Rapid Prototyping
- Systems Engineering
- Test Development
- Data Acquisition
- FMEA/DFMEA
- KiCAD
- Soldering
- Laser Cutting
- CNC Fabrication
- SolidWorks
- 3D Printing
- Labview
- MATLAB
- Hobby Machining
- Microcontrollers
- C Programming

WORK EXPERIENCE

Honda R&D America : Marysville , OH — Jan 2022 - Present

- Autonomous Systems Engineer
  - Led ECU system level development and validation across multiple vehicle models from project kick off to mass production while working cross functionally to define, design and perform tests.
  - Designed and implemented both HILS and on vehicle solutions for validating new and existing regulatory requirements for ECU development.
  - Focused on FMEA, test design, dynamic and static testing of TCU (Transmission controllers) for the first year and a half. Transitioned into the Autonomous Systems role where I am currently developing a localized HILS bench for next gen ADAS system.
  - Technologies Utilized: Automotive Bus (CAN, Ethernet), ETAS, VECTOR, IPEtronik, and CATIA

Toast Inc : Boston, MA — Jun 2021 - August 2021

- Electrical Engineering Co-op
  - Fabricated a fully custom automated robotic hardware testing platform based on the ESP32 microcontroller.
  - Worked closely with a cross disciplinary team of engineers to create detailed specifications for an upcoming tablet. Collaborated with ODM/JDM manufacturing vendors through out the product development lifecycle.
  - Analyzed and reviewed designs with multiple high speed signals such as MIPI, LVDS, gigabit ethernet and USB C.
  - Technologies Utilized: ESP32, Python, Fusion 360, RF Explorer, and PADs viewer.

WardJET - Waterjet Cutting Machines : Tallmadge, Ohio — May 2020 - May 2021

- Electrical Engineering Co-op
  - Designed and implemented multiple data collection and analysis systems to assist with root cause analysis of clogs in cutting operations.
  - Worked closely with engineers to develop processes for prototyping, testing and manufacturing of microphones and electronics for usage in waterjet process.
  - Technologies Utilized: Python, Digital Signal Processing,Raspberry Pi, and MATLAB.

University of Akron Undergraduate Research: Akron, Ohio — Sep 2018 - March 2019

- Lab Assistant for LTA Research & Exploration
  - Worked closely with a multi-disciplinary team to develop custom rapid prototyping and fabrication solutions for a innovative Unmanned Aircraft System.
  - Retrofitted new safety equipment, maintained, and calibrated a 300 watt industrial laser cutter.
  - Maintained a print farm of over 15 industrial-grade 3d printers which ran 24/7.
  - Technologies Utilized: SolidWorks 2018, Simplify3D, Octoprint, and RDWorks laser controller software.

PROJECTS

MLL Electronics: A Rapid prototyping R&D Lab

- 2000 sq Ft shop space designed for building rapidly iterative and customized electronics and mechanical fabrication. Capabilities include electronics prototype bring up, testing, and small scale manufacturing. Mechanical capability includes additive manufacturing, machining and welding fabrication (MIG/TIG).
- Projects include SouthBend 9A lathe restoration, LMS 3990 manual mill to CNC conversion, 3d printing, and various automotive projects.
- Capabilities still developing include embedded SW development, composites layout, RF & high speed electronics development ,and optical assemblies (ie lasers).

Keyboard Warrior: A custom built STM32F303 keyboard running the QMK firmware.

- Goal: design and fabricate a modular mechanical keyboard with ability to extend functionality over i2c (number pad, OLED display, etc)
- Schematic and board routing was done in KiCAD. With attention paid to crystal oscillator design, USB differential pair layout, and power supply design.
- Mechanical design was done in SolidWorks. A custom stacked aluminum case design was chosen due to simplicity and ability to easily fabricate.

EDUCATION

The University of Akron: Akron, Ohio

- Bachelor of Science in Electronic and Electrical Engineering — Aug 2018 - Dec 2021