

Michael Liang

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- EDUCATION** **The University of Akron:** Akron, Ohio
▪ Bachelor of Science in Electronic and Electrical Engineering Aug 2018 - Dec 2021
- SKILLS**
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|---------------------|-----------------|---------------|--------------------|
| • Rapid Prototyping | • KiCAD | • 3D Printing | • Hobby Machining |
| • PCB Design | • Soldering | • Labview | • Microcontrollers |
| • SolidWorks | • Laser Cutting | • MATLAB | • C Programming |
- WORK EXPERIENCE**
- 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.
- Summit County Engineer's Office:** Akron, Ohio
- Engineering Intern Jul 2018 - Sep 2018
 - Assisted with drafting of plans in AutoCAD and learned industry standard engineering drawing practices.
- PROJECTS**
- 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.
- LMS3990 CNC Conversion:** A custom CNC Mill
- A mini mill with a R8 spindle to CNC conversion with a 300mmx120mmx270mm build area.
 - Electronics consist of Mach 3 breakout board, custom high current stepper drivers based on TMC5160 driver with encoder feedback, and a spindle speed controller.
 - Mechanically designed in SolidWorks. Converted from linear lead screws to a C7 grade ball-screw system with custom made motor mounts.
- HAkron Public Relations Officer:** Akron's Official College Hackathon Group
- Worked on expanding and engaging with engineering student organizations on campus in order to teach basic programming and electronics.
 - Hosted HAkron 4K a hackathon which is a 24 hour invention marathon that encourages creativity, innovation, learning and engineering.
 - Worked closely with a team to manage 80+ students and lead the electronics hardware team. Mentored several teams, organized access to the Bounce Innovation hub makerspace, and gained experience in teaching troubleshooting to non-technical individuals.