

# Michael Liang

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<b>OBJECTIVE</b>	Seeking A Full Time Electrical Engineering role		
<b>EDUCATION</b>	<b>The University of Akron:</b> Akron, Ohio		
	▪ Bachelor of Science in Electronic and Electrical Engineering		Aug 2018 - Dec 2021
<b>SKILLS</b>	<ul style="list-style-type: none"><li>• Rapid Prototyping</li><li>• PCB Design</li><li>• SolidWorks</li></ul>	<ul style="list-style-type: none"><li>• KiCAD</li><li>• Soldering</li><li>• Laser Cutting</li></ul>	<ul style="list-style-type: none"><li>• 3D Printing</li><li>• Labview</li><li>• MATLAB</li><li>• Hobby Machining</li><li>• Microcontrollers</li><li>• C Programming</li></ul>
<b>WORK EXPERIENCE</b>	<b>Toast Inc :</b> Boston, MA Jun 2021 - August 2021		
	▪ Electrical Engineering Co-op		
	<ul style="list-style-type: none"><li>• Designed and printed a fully custom automated robotic hardware testing platform based on the ESP32 microcontroller.</li><li>• Worked closely with a cross disciplinary team of engineers to create detailed specifications for an upcoming tablet device. Learned about the ODM/JDM manufacturing process and the product development lifecycle.</li><li>• Gained experience in understanding the complexity of hardware design with multiple high speed signals such as MIPI, LVDS, gigabit ethernet and USB C.</li><li>• Technologies Utilized: ESP32, Python, Fusion 360, RF Explorer, and PADs viewer.</li></ul>		
	<b>WardJET - Waterjet Cutting Machines :</b> Tallmadge, Ohio May 2020 - May 2021		
	▪ Electrical Engineering Co-op		
	<ul style="list-style-type: none"><li>• Designed and implemented multiple data collection and analysis systems to assist with root cause analysis of clogs in cutting operations.</li><li>• Utilized metrics from sensors such as accelerometers, moisture sensors and piezoelectric microphones to assist with product development road map.</li><li>• Technologies Utilized: Python, Digital Signal Processing, Raspberry Pi, and MATLAB.</li></ul>		
	<b>University of Akron Undergraduate Research:</b> Akron, Ohio Sep 2018 - March 2019		
	▪ Lab Assistant for LTA Research & Exploration		
	<ul style="list-style-type: none"><li>• Worked closely with a multi-disciplinary team to develop custom rapid prototyping and fabrication solutions for a innovative Unmanned Aircraft System.</li><li>• Retrofitted new safety equipment, maintained, and calibrated a 300 watt industrial laser cutter.</li><li>• Maintained a print farm of over 15 industrial-grade 3d printers which ran 24/7.</li><li>• Technologies Utilized: SolidWorks 2018, Simplify3D, Octoprint, and RDWorks laser controller software.</li></ul>		
	<b>Summit County Engineer's Office:</b> Akron, Ohio Jul 2018 - Sep 2018		
	▪ Engineering Intern		
	<ul style="list-style-type: none"><li>• Assisted with drafting of plans in AutoCAD and learned industry standard engineering draw practices.</li><li>• Technologies Used: AutoCAD Civil 3D 2013, ArcGIS (mapping software)</li></ul>		
<b>PROJECTS</b>	<b>Keyboard Warrior:</b> A custom built STM32F303 keyboard running the QMK firmware.		
	▪ Goal: design and make 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.		
	<b>LMS3990 CNC Conversion:</b> 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.		
	<b>HAkron Public Relations Officer:</b> 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.		