Mira Chew

mira@thechewfamily.com +1 424 262 4392 mirachew

Education & Selected Projects

BS **Olin College of Engineering**, *3.72 GPA*, Mechanical Engineering — Sep 2022 – Dec 2026

Aluminium Welded Load-Bearing Furniture Project

- Designed and TIG welded multifunctional aluminum furniture w/ integrated wood via SolidWorks

Laser Wizard Tag Project

- Developed wireless ESP8266-based laser tag system w/ custom circuit design, IR sensor arrays & Arduino live web dashboard

Experience

Farm-ng, Hardware & Mechanical Engineering Co-op — May 2025 – Aug 2025
Designed, manufactured, & produced system assemblies and parts for autonomous tractors using SOLIDWORKS, Fusion 360, sheet metal, welding, laser cutting, bending, CNC machining, & powder coating — *Watsonville, CA*

Suspension Project *(Jun 2025 - Jul 2025)*

- Developed hydraulically interconnected suspension enabling 27° wheel articulation
- reduced cost by 20% and manufacturing time by 36%

Johnson & Johnson Surgical Robotics R&D Medtech, Mechanical Engineering Co-op — May 2024 – Dec 2024
Designed & materialized mechanisms, custom sensors, actuators, & gearboxes for medical device capital equipment applications using SOLIDWORKS, 3D printing, Technical Drawings, & GD&T — *Santa Clara, CA*

Custom Gearbox Project *(Oct 2024 - Present)*

- Designed & prototyped custom surgical gearboxes (helical, bevel, spur) in SOLIDWORKS + GearTeq; validated torque and motion smoothness across 6 printed iterations (SLS/SLA)
- Collaborated with manufacturers on injection-moldable revisions to reduce costs & assembly time

Precisions Assembly Fixturing Project *(Jun 2024 - Jul 2024)*

- Developed precision fixturing w/ GD&T for custom torque sensors (sub-mm repeatability)
- Reduced hand-assembly time by 30% via standardized modular setups
- Designed pneumatic test rigs to quantify component life cycles & analyze mechanical failure

Mechanical Component Integration Project *(Sep 2024 - Oct 2024)*

- Designed multifunctional aseptic mesh of capital equipment & instruments in SolidWorks
- Optimized injection-molding DFM; refined joining (heat-staking, fusing, latching) for reliablity

Olin Baja Society of Automotive Engineers, Senior Engineer, Design & Fabrication Lead — Sep 2022 – Dec 2024
Led vehicle design reviews & fabrication, emphasizing DFM/DFA via integration of suspension/ drivetrain/chassis — *Needham, MA*

Chassis Project *(Jan 2022 - May 2022)*

- Design & MIG weld frame elements in SOLIDWORKS & FEA to optimize driver safety/performance

FIRST Robotics Team Voltage, Team Founder, Software & Hardware Team Lead — Aug 2017 - Mar 2022
Led 8-member robotics team; designed and programmed competition robot (PTC Creo, Java OOP) — *Bellevue, WA*

REI Co-op, Bike & Snow Repair Shop Technician — Mar 2022 - May 2024
Diagnosed & repaired bike issues and taught customers/employees mechanic skills — *Bellevue, WA*

AppEsteem Corporation, Software Development Intern — Sep 2021 – May 2022
Developed front and back end of data visualization widgets using React JS and REST API — *Bellevue, WA*

UW Machine Learning and Robotics Lab, Summer Robotics Intern — Summer 2020 & 2021
Designed & iterated 3D-printed optical sensing mounts for robotic arm tracking in ML research — *Seattle, WA*

Skills

Design & Fabrication: SOLIDWORKS, Fusion 360, GearTeq, PTC Creo, GD&T, DFM, CNC Milling, MIG/TIG Welding, Machining, Laser Cutting, Assembly, Powder Coating, Manual Lathe, FDM/SLS/SLA, Automotive (Engine, Suspension, Brakes, Diagnosis)

Software & Analysis: MATLAB, Python, Java, Arduino, Git, React JS, LaTeX

Leadership

Olin Office of Strategic Communications, Student Gov. Rep., Photographer — Sep 2023 - May 2024

Olin Soccer, Olin Handball, & Olin Bike Club, President, Team Captain, Budget Manager — May 2023 - Present