THOMAS (TOM) R. ZIMET

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EDUCATION

University of Michigan | Ann Arbor, MI *Master of Science, Mechanical Engineering*

- GPA: 4.00/4.00

University of Washington | Seattle, WA *Bachelor of Science, Mechanical Engineering*

- Cumulative GPA: 3.59/4.00, Major GPA: 3.70/4.00

PROFESSIONAL EXPERIENCE

Hardware Engineer | General Motors | Warren, MI *June 2023 - Present*

- Model plastic injection-molded parts in NX, utilizing best practices in design for manufacturability and assembly
- Apply GD&T principles to ensure parts fit in large and complex assemblies, leveraging Teamcenter PLM
- Managed, operated, and troubleshooted development, validation, and application testing on hydrogen fuel cells
- Led new test stand commissioning, creating INCA UI layers to reduce future commissioning lead time by 50%
- Developed a SQL fuel cell stack tracking tool in Power BI, decreasing test transition downtime by 14%
- Utilized design for six sigma to create a SQL lab status dashboard in Power BI, increasing test uptime by 34%
- Wrote Python scripts to automate common testing cycles, eliminating the need for manual operation

Equipment Development R&D and Engineering Co-Op | Starbucks | Seattle, WA *June 2022 - September 2022*

- Designed, manufactured, and assembled a precision syrup dispensing machine to increase drink consistency
- Constructed and designed a custom ice dispensing machine to increase efficiency and reduce strain on baristas
- Assisted the electronics team by modeling and 3D printing custom electronic housings
- Modified hydraulic systems to improve the performance of coffee machines in stores with limited water pressure

Manufacturing Engineering Intern | Digital Control Inc. | Kent, WA *June 2021 - September 2021*

- Conducted a product analysis and proposed redesigns that reduced weight by 25%
- Increased worker safety by skeletonizing a fixture to reduce weight by 64% while preserving crucial tolerances
- Fabricated 7 different fixtures to eliminate certain failures and shorten lead time by 17%
- Produced an emergency fixture in 2 days that salvaged 5,000 defective parts and saved a week of delay
- Crafted a fixture that removed need to manually secure a part to decrease soreness and fatigue in technicians
- Completed FDM 3D printer upgrades and maintenance while printing over 300 parts

ADDITIONAL EXPERIENCE

Mechanical Engineer | UM BioInspired Robotics | Ann Arbor, MI *January 2025 - April 2025*

- Designed owl-inspired fan blades that reduced noise by 25% while maintaining wind speed and power draw

Mechanical Engineer | UW Engineering Innovation in Health | Seattle, WA *September 2021 - June 2022*

- Made a novel wearable pulse detection device to address clinical needs as pitched by a UW Medicine doctor
- Won $1,450 in prototype funding from the Buerk Center of Entrepreneurship

Research Engineer | Transformative Robotics Lab | Seattle, WA *July 2020 - June 2022*

- Created a hopping robot that can adjust jump height and frequency by varying spring stiffness through twisting a handed-shearing auxetic (HSA), integrating motors, encoders, COTS parts, and custom parts
- Optimized HSA design, increasing bearable load by 13% while maintaining desired nature
- Performed FEA analysis and Instron testing to collect HSA data used to program the robot
- Modeled compliant mechanisms with SolidWorks and tested performance with Ansys to enhance function
- Reduced test time by 20% by designing an easily adjustable compliant straight-line mechanism tiling system
- Constructed 5 different mechanical metamaterials by strategically changing straight-line mechanism geometry

SUMMARY OF QUALIFICATIONS

- Certifications: Fundamentals of Engineering (FE) – Mechanical, Design for Six Sigma (DFSS) – Black Belt, Mechanical Design Associate (CSWA)
- Mechanical design skills including DFA, DFM, DFAM, GD&T, PLM, and product development
- Proficient in NX, SolidWorks, Fusion 360, AutoCAD, Ansys, Python, MATLAB, Power BI, and fluent in Japanese
- Machine shop certified, including 3D printing, laser cutting, milling, lathing, soldering, and CNC machining