Zachary Salloum

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Education

University of Michigan — Ann Arbor, MI
Bachelor of Science in Mechanical Engineering, International Minor for Engineers — *Aug. 2025 – May 2029*

- Cumulative GPA: 4.00/4.00
- University of Michigan Regents Merit Scholarship Recipient

Wylie E. Groves High School — Beverly Hills, MI
High School Diploma — *Aug. 2021 – May 2025*

- Cumulative GPA: 4.71/4.00
- National Honor Society, AP Scholar, DECA Chapter Co-President, Track and Field Team Captain

Project Experience

Electric Boat Outboard Motor Project | *UM Electric Boat Team* — August 2025 – Present

- Designed a 50 HP electric outboard motor for D-Stock competition as part of the University of Michigan Electric Boat powertrain sub-team
- Engineered a custom 1.43:1 reduction gearbox to reduce motor speed from 10,000 RPM to 7,000 RPM while increasing torque output
- Designed custom brackets to mount motors, encoders, and inverters to the outboard midsection
- Created detailed parametric CAD models and assemblies in Siemens NX, accounting for gearbox shaft alignment and manufacturability

Custom-Built 3D Printer Project | *Passion Project* — June 2023 – August 2024

- Designed and built a custom FDM 3D printer to achieve 30 % greater print speed and 70 % larger total build volume compared to standard consumer-grade machines
- Developed accurate parametric CAD assemblies in Fusion 360 and Onshape, including over 20 custom parts that were modeled and 3D printed in order to mount different build elements
- Selected and integrated various electrical components, including a display, main-board, power supply, and external MOSFET
- Modified main-board firmware to ensure compatibility with the custom hardware configuration
- Assembled, tested, and tuned the machine to achieve a dimensional accuracy measurement of ± 0.1 mm

Professional Experience

Bicycle Technician and Cashier — Berkley, MI
D&D Bicycles — *June 2023 – August 2025*

- Collaborated with team members to maintain a clean, organized, and safe working environment
- Serviced, maintained, and repaired bicycles with a focus on efficiency, quality, and safety
- Assembled new bicycles upon arrival at the shop, adhering to strict quality control guidelines from manufacturers
- Assisted customers in their shopping experience, managed the register, and maintained the showroom

Skills

Software: Siemens NX, Fusion 360, Onshape, MATLAB, C++, VSCode, Microsoft Office Suite

Languages: French (spoken and written proficiency)

Relevant Coursework: Multivariable Calculus, Differential Equations, AP Physics Mechanics, AP Physics Electricity and Magnetism