

# ALEXANDER VU

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## EDUCATION

### The University of Texas at Austin

May 2026

*Bachelor of Science in Mechanical Engineering, Business Minor, GPA 3.8*

Relevant Coursework: Mechatronics, Data Analytics, Heat Transfer, Thermodynamics, Materials Engineering

Student Organizations: ASME, IEEE Robotics & Automation Society, FSA, Project PL8

## SKILLS

Analysis & Design: SolidWorks, Autodesk Inventor, Onshape, Revit, SolidWorks FEA, MATLAB, Multisim, Circuit Analysis

Software: Python, Java, Excel VBA, SQL, Tableau, Arduino

Fabrication: Additive Manufacturing, Laser Cutting, Woodworking, CNC Machining

## EXPERIENCE

### TSMC (Taiwan Semiconductor Manufacturing Company), Phoenix, AZ

Upcoming, May 2025 – Aug 2025

*Equipment Engineering Intern*

- Troubleshoot equipment and analyze root causes using data-driven methods to enhance reliability and uptime.
- Engineer monitoring systems with SPC charts and statistical analysis to prevent tool failure and maximize yield.

### Project Production Longhorn V8 (Student Organization), Austin, TX

Mar 2024 – Present

*Manufacturing Lead*

- Orchestrate the prototyping of a 9' x 5' vacuum former modeled in **Inventor** and select vendors and materials for testing. Use both **laser cutting** and traditional **woodworking** tools to fabricate components.
- Execute research, validation, and material testing of basalt fiber samples, leveraging **Excel** for project management.

### Glumac, a Tetra Tech Company, Austin, TX

Jun 2024 – Aug 2024

*Engineering Intern*

- Led a multi-functional, virtual team to develop sustainable design strategies, achieving a 25% reduction in water usage and a crafted customer-centric presentation to over 80 stakeholders, using **Tableau** to visualize collected data.
- Optimized load calculations in **Excel**, utilizing **pivot tables** for data analysis, enabling senior engineers to make equipment recommendations.
- Interpreted both 2D and 3D storm drainage system models using **Revit** to create piping and instrumentation diagrams which illustrated flow and contributed to a 30% DD set of technical documents to clients during a critical phase.

## PROJECTS

### Machine Elements RC Car

Jan 2025 – Present

- Spearheading a team in designing and building a remote-controlled car with a PLA chassis, servo-controlled steering, and belt drive; managing the project timeline, Bill of Materials, and ensuring the project stays on schedule.
- Developing the Ackermann steering assembly for the front wheels in **SolidWorks** and using **FEA** for stress testing.

### IEEE RAS Robotathon Competition

Aug 2024 – Nov 2024

- Coordinated a team to design and build an autonomous robot utilizing parametric modeling techniques in **SolidWorks** for chassis design and **Arduino** for programming, awarded "Best Programming".
- Refined programming and hardware by using root cause analyses to debug issues and optimize performance.

### Recycling Sorter (High School Senior Design Project)

Aug 2021 – May 2022

- Directed project timelines with **GANTT charts**, coordinated meetings, and delegated tasks for a team of four to develop a recycling sorter using VEX robotics, scanners, and motors.
- Presented the prototype to 10 engineers to capture design improvements and optimization opportunities.