

Albert Zheng

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EDUCATION

Cornell University, College of Engineering, Ithaca, NY

Expected May 2028

B.S. in Mechanical Engineering

GPA: 3.65

Relevant Coursework: Statics, Dynamics*, Thermodynamics, Mechanical Synthesis*, Object-Oriented Programming and Data Structures, Multivariable Calculus, Differential Equations

*Courses planned for Spring 2026

PROFESSIONAL EXPERIENCE

Cornell Electric Vehicles

Ithaca, NY

Steering Subteam Member

October 2024 – Present

- Collaborated with 50+ engineers to build a hyper-efficient autonomous EV, placing 5th and winning 2 off-track awards
- Redesigning pedal box for improved ergonomics and efficiency by downsizing hydraulic components, modifying brake calipers, reinforcing pedals, and reducing overall pedal box footprint on chassis
- Introducing a brake pressure sensor that enables a reliable feedback loop for autonomous braking control
- Designed and fabricated a durable 48V battery enclosure in Autodesk Inventor, integrating the traction battery, BMS, and ISO board while ensuring compliance with Shell Eco-Marathon regulations
- Conducted FEA in ANSYS to evaluate to validate L-bracket strength and deformation under worst-case loading
- Developed 3D-printed flat plates providing stable mounts for steering and braking systems on a curved chassis

Servpac – Telecommunications Service Provider

Honolulu, HI

Engineering Intern

May 2025 – August 2025

- Designed and implemented interactive user onboarding tours using *Shepherd.js*, guiding users through complex UI
- Built a flexible Rails + JavaScript templating system that dynamically renders step-by-step tutorials, allowing non-technical staff to update onboarding flows without developer support
- Configured an AI-powered transcription service, *AssemblyAI*, to process and analyze customer service call recordings, enabling multi-channel diarization and domain-specific keywords tagging that cut manual review time

Network and Systems Intern

May 2024 – August 2024

- Contributed to back-end development of the company website, leveraging Linux, HTML, and CSS
- Installed, configured, and troubleshooted 100+ VoIP phone systems for clients, ensuring seamless deployment
- Gained hands-on experience with IT infrastructure by configuring servers and diagnosing electrical system issues

FIRST Tech Challenge Robotics

Honolulu, HI

Team Captain

August 2018 – May 2024

- Designed and fabricated custom swerve drive modules from scratch, integrating precision timing belts, bevel gears, and 3D-printed components, enabling omnidirectional mobility in a 4-motor-constrained system
- Engineered and optimized competition mechanisms such as four-bar lifts and intake systems, improving lifting range, reducing structural weight, and enabling faster, smoother game piece cycles
- Mentored rookie teams for 80+ total hours in CAD, drivetrain design, and mechanical assembly
- Developed odometry and TensorFlow vision algorithms for localization, path-planning, and object detection, improving robot accuracy in teleop and autonomous modes by 200%

PROJECTS

Machined Aluminum Lamp

February 2025

- Machined a functional aluminum lamp using mill and lathe operations with precision cutting, drilling, and tapping
- Interpreted engineering drawings to plan machining, translate dimensions, and ensure parts meet design specifications

VR/Archives

August 2023 – May 2024

- Developed a refined 3D scanning process for school Archives Department using photogrammetry and Blender
- Built interactive VR environment in Unity allowing students to explore digitized artifacts in immersive detail

SPECIALIZED SKILLS

Programs: Autodesk Inventor, Ansys, Fusion360, Java, MATLAB, Python, C, HTML, Ruby, Linux, CSS, Excel

Manufacturing: Manual Mill and Lathe, Laser Cutting, 3D Printing, Engineering Drawings

Languages: English, Spanish (conversational), Chinese (conversational)