Zhou Xianyi

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EDUCATION

Cornell University, College of Engineering, Ithaca, NY — Expected May 2027
Bachelor of Science, Mechanical Engineering
GPA: 3.725

Relevant courses: Foundations of Robotics; Mechanics of Materials; Fluid Mechanics; System Dynamics; Dynamics; Statics and Mechanics of Solids; Thermodynamics; Introduction to Mechanical Design; Introduction to Computing in Python; Physics Waves and Oscillations; Physics Electricity and Magnetism; Linear Algebra; Differential Equations; Multivariable Calculus

RELATED EXPERIENCE

Arm sub-team member, Cornell Mars Rover Project Team — Feb 2024 – Present

- Research and development of a 6 DOF cable-actuated robotic arm, with a 3 DOF wrist assembly and elbow joint driven by pulley systems
- Involved in the design and manufacturing of the rover's robotic arm to compete in the University Rover Challenge; designed and manufactured the Delivery Mission end effector optimized for strength and adaptability for completing dexterous tasks in challenging conditions
- Prototyped a miniature rover as a companion to the main rover for scouting purposes

Intern, aRoboticsCompany — Jun 2025 – Aug 2025

- Redesigned a robotic hoist mechanism for building façade inspection; mitigated oscillation of the system from environmental factors and optimized geometry for field of view, compactness, and stability of the electronics enclosure
- Created and machined interchangeable joints for a multi-purpose wearable inspection vest, able to switch efficiently between leak tracing, foundation analysis and 3D mapping equipment
- Prototyped a spectroscopy adapter for analyzing debris to precisely control cutting, sanding and polishing processes

Power Wheelchair System Research - Dynamics and Controls — Jan 2025 – May 2025

- Built a custom dynamometer for a Permobil M3 Corpus to evaluate its speed and performance
- Evaluate and modify the joystick and PID control
- Automate the wheelchair using location and orientation feedback from motion tracking

Intern, C3 Robotics Lab, Chinese University of Hong Kong — July 2024 – Aug 2024

- Researched cable-driven bio-robotics, developing modular task-specific prosthetics and supernumerary limbs
- Developed a prototype of a foot-actuated cable drive mechanism to improve angular control of modular prosthetics for amputees

Scholar, Pioneer Academics Research Program — June 2022 – Sept 2022

- Conducted individual research with Rose-Hulman Professor Hossein Alisafaee
- Wrote a thesis on the design of a Vertical-cavity surface-emitting laser based on photonic crystals; Oberlin-accredited; Grade: A+

WORK EXPERIENCE

Student Conservation Assistant, **Olin Conservation Lab**, Cornell University — Sept 2023 – Present

- Stabilize special library collections to improve condition, storage and researcher access
- Repair and clean deteriorating printed material such as manuscripts and maps

CAMPUS INVOLVEMENT

Cornell Maker Club, *Member* Nov 2023 – Present
Theme Park Engineering Group, *Member* Aug 2023 – May 2024

AWARDS

Sibley School of Mechanical and Aerospace Engineering 150th Anniversary Logo Design (2024)

SKILLS & INTERESTS

- Programs: Microsoft Word, Excel, Powerpoint; Coding: Python, MATLAB; CAD: Autodesk Inventor, Fusion; FEA: Ansys, Fusion
- CAM and CNC experience; Machine shop trained to operate manual mills and lathes; welding experience
- Art and animation: Krita, Medibang, IbispaintX, Blender
- Proficient in Mandarin and Cantonese

PORTFOLIO

https://xyzport.carrd.co/