Zhiyu (Iris) Ren

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EDUCATION

Cornell University, College of Engineering, Ithaca, NY **Expected May 2026**
Bachelor of Science, Mechanical Engineering, GPA 3.91
Relevant Courses: Fluid Mechanics, Heat Transfer, Mechatronics, Mechanics of Engineering Materials, Aeronautics, Statics and Mechanics of Solids, Engineering Computation, Water Engineering.

University of California, Santa Barbara College of Arts and Science, Goleta, CA **Sep 2021-Jun 2023**
Bachelor of Science, Environmental Studies, GPA 3.97

WORK EXPERIENCE

Biodegradable Pressure Sensor, NUS, *Research Intern* **May-Jul 2025**
- Developed biodegradable PCB material from kombucha mat for sustainable electronics application
- Demonstrated improved sensitivity by optimizing pressure sensor structures using kombucha-based material
- Integrated optimized sensors into functional insole devices contributing to a forthcoming research publication

Global Action Impact Association, Trujillo, Peru, *Project Intern* **Aug 2024**
- Optimized electronic designs of wind turbines for seamless integration with solar controllers
- Secured affordable access to essential electronic components through reliable local sourcing in Trujillo
- Installed wind turbines in San Pedro highlands directly empowering rural local families' energy access

PROJECT

Computer Vision Project for Digital Agriculture, Cornell university, *Prototype Designer* **Aug 2024-Jan 2025**
- Design a laser scanning device for agricultural managers to accurately measure vine pruning weight
- Research cost-effective materials for the device to ensure accessibility for farmers while maintaining performance
- Schedule to conduct field measurements in December to adjust and validate the device designs

SEA Lab, Cornell University, Multidisciplinary Design Optimization Team, *Project Member* **Jan 2024-Aug 2024**
- Manufactured parts for RM3 and RM5 wave energy converter by laser cut and 3D printing
- Generated figures and debugged the code for simulation models for wave energy converter design
- Optimized the figures generated from gradient based algorithm and pattern search algorithm

Cornell University Sustainable Design, Soil Factory Subteam, *Subteam Member* **Aug 2023-May 2024**
- Conducted burnings to produce biochar and observe the deficiency of kiln design and combustion process
- Researched and optimized the kiln design to cause less environmental impact and retain nutrients in biochar
- Implemented experiment to testify biochar's capacity to prevent soil erosion and reduce salinity

Cheadle Center for Biodiversity and Ecological Restoration, Goleta, CA, *Research Intern* **Jan2023-Mar 2023**
- Researched hypothesis to examine the relationship between bee morphology and climate change
- Photographed 951 dorsal images and multi-view images of bee specimens into the database
- Measured intertegular spans for 152 bee specimens and uploaded them into Zooniverse, a digitalized system

EXCURRICULAR

Engineering Competitors for Sustainability, Cornell University, *Club President* **Jan 2024-Aug 2025**
- Established the club from inception, recruiting 70% initial members and securing faculty advisor approval
- Organized six-month technical workshops and arranged venues for annual competition days
- Communicated with competition organizations to orient the club activities in preparation for new competition

SKILLS

Professional Skills: Fusion 360, Python, Matlab, R, Excel, Mandarin.
Campus Involvement: Cornell Engineering Leadership Certificate Program, Cornell Cup Robotics, Engineering Competitors for Sustainability, Tau Beta Pi Society, Cornell Chinese Drama Society, Daily Nexus.