Zhiyu (Iris) Ren

124 Westbourne Ln 14850, NY
www.linkedin.com/in/iris-ren-563231292
Cell: (951) 456-9109
irin1236012@outlook.com

EDUCATION

Cornell University, College of Engineering, Ithaca, NY **Expected May 2026**
Bachelor of Science, Mechanical Engineering, GPA 3.91
Relevant Courses: Heat Transfer, Mechatronics, Fluid Mechanics, Mechanics of Engineering Materials, Introduction to Aeronautics, Statics and Mechanics of Solids, Engineering Computation, Water Quality 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
Relevant Courses: General Chemistry, Physics: Mechanics & Heat, Physics: Electromagnetism, Multivariable Calculus, Vector Calculus.

RELEVANT EXPERIENCE

Engineering Competitors for Sustainability, Cornell University, *President* **Aug 2023-Present**

- Optimized electronic designs for wind turbines to adapt to solar panel controllers in 2023 & 2024
- Conducted circuit experiments to troubleshoot the electronic-part connection and estimate turbine power output
- Visited the community in San Pedro highlands and installed the base of wind turbine for rural families
- Design parameter collection system for bikes in Colombian communities for World Bike Relief in 2025

Computer Vision Project for Digital Agriculture, Cornell university, *Prototype Designer* **Aug 2024-Present**

- Design a laser scanning device for agricultural managers to accurately measure vine pruning weight
- Develop a mathematical model to relate device geometry to the distance between the vine and the camera
- Research cost-effective materials for the device to ensure accessibility for farmers while maintaining performance
- Optimize the design's stability, portability, and durability to evolve it into a mature and accessible product

Co-generation Device Optimization, Cornell university, *Researcher* **Jan 2025-Present**

- Designed and 3D-printed actuator bases to stabilize and secure device actuators
- Developed and tested sundials with photoresistor arrays for sun position tracking
- Programmed actuators to adjust glass angles for optimal solar energy concentration and energy input
- Make an AI-camera control to dynamically track the sun and adjust actuator extrusion distances

SEA Lab, Cornell University, Multidisciplinary Design Optimization Team, *Researcher* **Jan 2024-Aug 2024**

- Manufactured and assembled parts for RM3 and RM5 wave energy converters by laser cut and 3D printing
- Generated figures and debugged the code for simulation models for wave energy converter design
- Evaluated performance metrics for other sustainable energy sources and compared them with wave energy
- Optimized the figures generated from gradient based algorithm and pattern search algorithm

Cornell University Sustainable Design, Soil Factory Project, *Subteam Member* **Aug 2023-May 2024**

- Conducted burnings to produce biochar and analyzed the deficiency of kiln design and combustion process
- Redesigned the kiln design to reduce environmental impact and retain nutrients in biochar
- Implemented experiment to testify biochar's capacity to prevent soil erosion and reduce salinity
- Established connections with local farmers for more adoption of agricultural biochar

SKILLS

Technical: Arduino, Fusion 360, Python, MATLAB, R, Excel, PowerPoint.
Campus Involvement: ELI Undergraduate Research Award Recipient; Engineering Competitors for Sustainability, President; Tau Beta Pi Society, Vice President; Cornell Chinese Drama Society, Member.