Zhiyu Ren

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EDUCATION

Cornell University, College of Engineering, Ithaca, NY   **Aug 2023-Present**
Bachelor of Science, Mechanical 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: Statics and Mechanics of Solids; Engineering Computation; Water Quality Engineering; General Chemistry; Physics: Mechanics & Heat; Physics: Electromagnetism; Multivariable Calculus; Vector Calculus; Physics Laboratory.

PROFESSIONAL EXPERIENCE

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

RESEARCH EXPERIENCE

SEA Lab, Cornell University, Multidisciplinary Design Optimization Team, *Project Member*   **Jan 2024-Present**
- Manufacturing RM3 and RM5 wave energy converter and implementing tank tests
- 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

Utility Patent: Cigarette-Butt Extinguishing Device, *Individual Designer*   **Jun 2020-Feb 2021**
- Analyzed the installation structures of cigarette butts' collectors domestically and abroad
- Did experiments to test the fire extinguishing efficiency of 5 non-combustible gases and liquids
- Tested the prototype models to simulate human pedaling movements for isolating oxygen

Haze Research, *Individual Researcher*   **Dec 2019-Aug 2020**
- Collected air pollutant concentrations and compared data of air qualities in 2018 and 2019
- Concluded three factors contributing to high level of air pollution in China during pandemic
- Made proposals about how to improve air quality from both individual and industry perspectives

BIOMA Program, Costa Rica, *Researcher*   **Dec 2022**
- Researched about sustainability of community-based egg harvesting
- Patrolled 14 days at midnight to collect information about spawning sea turtles
- Reconstructed hatchling sites for 538 baby sea turtles on the beach and released 102 rescued baby sea turtles

CAMPUS INVOLVEMENT

Cornell University Sustainable Design, Soil Factory Subteam, Cornell University, *Member*   **Aug 2023-Present**
Cornell Chinese Drama Society, *Actress & Lighting Crew*   **Aug 2023-Present**
Daily Nexus, University of California, Santa Barbara, *Photographer*   **Feb 2022-Jun 2023**

ADDITIONAL EXPERIENCE

Green House and Gargen Program, Goleta, CA, *Volunteer*   **Nov 2021-May 2022**

SPECIALIZED SKILLS

Professional: Data Gathering and Evaluation skills, Communication and Collaboration skills, Develop Experiment skills
Computer: Matlab, Python, R, Excel, PowerPoint, and Microsoft
Languages: proficient in Mandarin