

Jonathan Su

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OBJECTIVE

To gain hands-on experience and skills in a chemical engineering industry through an immersive internship.

RELEVANT EXPERIENCE

Hormozi Laboratory, Cornell University

April 2021 – Present

Undergraduate Research Assistant

Ithaca, NY

- Study the flow of non-Brownian suspensions in narrow channels using Particle Imaging Velocimetry techniques to track the dispersion of particles to identify points of migration, which are used to model natural disasters, like mudslides and avalanches
- Conduct experiments using suspensions with varying volume fractions of particles to observe the effect of volume fractions on the time it takes for the particles to migrate
- Design image processing code using Java to calculate the volume fraction of particles along the width of the channel to process thousands of images at once and generate graphs to display the results
- Created macros for ImageJ to take raw images and convert them to black and white using a sufficient threshold to maximize the signal-to-noise ratio

ChemE Car, Cornell University

Oct. 2019 - Present

Potions Subteam Lead

Ithaca, NY

- Collaborate with different sub-teams to design and calibrate chemical reactions that power a model car and stop it at a target distance per AIChE Competition rules
- Improved the current stopping reaction to increase the accuracy and precision to within a second of the target time, allowing the team to advance to the National Competition
- Placed first overall in the Northeast Regional Competition in 2021

College of Engineering, Cornell University

Aug. 2020 – Present

Consultant for Introduction to Python

Ithaca, NY

- Hold office hours and lab discussion sections to deepen the students' understanding of fundamentals of Python by troubleshooting their code and correcting their misconceptions to improve their efficiency and style
- Function as an intermediary between the professor and students and addressed student's questions through discussion forums by guiding students towards self-learning and discovering

OTHER EXPERIENCE

American Institute of Chemical Engineers (AIChE)

October 2020 – Present

Junior Representative

Ithaca, NY

- Collaborate with AIChE representatives to organize professional events for Chemical Engineering students

New Turbo Education

September 2020 – Present

Tutor

New York City, NY

- Cultivated a deeper understanding in STEM-related subjects for minors during the COVID-19 pandemic by developing specialized lessons for every individual's personal learning style to improve their test scores in major exams like the ACT

Department of Pediatrics and Computer Science, UC San Diego

June 2017 – Jan. 2019

Research Intern

San Diego, California

- Under the guidance of Dr. Debashis Sahoo, studied Boolean relationships between gene expression values to identify relationships between genes expressed in the colon and those affiliated with higher risk of cancer to provide more genetic markers that can be used to predict the onset of cancer

SPECIALIZED SKILLS

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|--|---------------|-------------------------------------|
| • Particle Imaging Velocimetry | • Mathematica | • 3D printing |
| • Lab Equipment (Rheometer) | • MS Office | • General machine shop tools (mill) |
| • Object Orientated Programming (Python, Java) | • Soldering | • Autodesk Fusion360 |

EDUCATION

Cornell University, College of Engineering, Ithaca, NY

Expected May 2023

- Bachelor of Science in Chemical Engineering
- Awards: Dean's List of the College of Arts & Sciences for Excellence (2019, 2020, 2021), GPA: 4.0
- **Relevant Courses:** Fluid Mechanics; Honors Organic Chemistry; Honors Physical Chemistry; Chemical Process Design and Analysis