

# Olivia Xie

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## EDUCATION

### University of California, Berkeley

Genetics & Plant Biology, B.S.

August 2020–May 2025

Computer Science, B.A.

GPA: 3.970

**Relevant coursework:** Machine Learning, Practical Genomics, Artificial Intelligence, Computer Vision, Efficient Algorithms, General Biology, Biochemistry

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## RESEARCH EXPERIENCE

### Moi Lab

September 2024–Present

Department of Integrative Biology — University of California, Berkeley

- Designing deep learning model for predicting fitness-determining features in plant epigenomes

### Winer Lab

July 2024–August 2024

Buck Institute

- Analyzed differential methylation in bisulfite sequencing data of human cells exposed to microgravity
- Compared outcomes across different pipelines and distinguished valid results

### Gu Lab

February 2022–May 2024

Department of Plant & Microbial Biology — University of California, Berkeley

- Assisted graduate student mentor with investigating nuclear membrane protein degradation in plants
    - Aided in processing protein sequence data using Python and AlphaFold
  - Ran experiments in wet lab several days a week independently and with mentor
    - Assembled & transformed plasmids for creation of transgenic plants
    - Genotyped transgenic plants for successful T-DNA insertions and knockout lines
    - Identified novel protein-protein interactions via yeast two-hybrid experiments
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## PROJECTS

### Classifying Cells

April 2024

Machine learning project

- Implemented autoencoder to represent scRNA-seq data of blood cells in latent/lower-dimensional space
- Created classifier for cells using ensemble of ten neural networks with custom architecture

### Mango Genomics

November 2022

Bioinformatics project

- Investigated genetic basis of mango phenotypes using published genomes and databases
  - Built phylogenetic tree for specific genes of 4 mango cultivars using BLAST, MAFFT, phytools, and FigTree
  - Presented findings in succinct deliverable to students and professors
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## AWARDS

Cal Alumni Association Leadership Award

2023

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## LEADERSHIP

UC Berkeley Undergraduate Graphics Group

August 2021–December 2024

Head instructor

- Prepared, oversaw, and carried out weekly lectures
- Managed curriculum, labs, and course logistics
- Mentored team of 4 students in semesterly projects
- Led weekly meetings with staff

Golden Bear Orientation Leader

August 2023

- Led group tours, activities, and events for ~40 incoming freshmen over UC Berkeley Orientation Week
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## ADDITIONAL WORK EXPERIENCE

Yifang Taiwan Fruit Tea

June 2023–Present

Berkeley, CA

- Prepare and serve drinks from menu of 60+ items at most popular fruit tea shop in Berkeley
  - Manage customer orders and handle inquiries professionally during rush hours
  - Clean shop thoroughly and organize inventory after close
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## PUBLICATIONS

Calvanese, E., Xie, O., and Gu, Y. (2024). ECLIPSE is a substrate adaptor in plant nuclear membrane protein degradation. Submitted to Journal of Experimental Botany.

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## SKILLS

**Technical:** Python, Java, C/C++, R, Bash, Go, HTML/CSS/JS, Google Workspace, Microsoft Office, Benchling, AlphaFold, Autodesk Maya

**Wet Laboratory:** Gene cloning, PCR, genotyping, yeast two-hybrid, fluorescence microscopy

**Language:** Fluent in Mandarin, learning Japanese

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