

# Ella Yee

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## EDUCATION

### Columbia University in the City of New York

New York, NY

B.S. in Biomedical Engineering, Minor in Computer Science

September 2024 - May 2028

- Awards: Egleston Scholar (Top 1% of Engineering Applicants), Dean's List (Fall 2024, Spring 2025)
- Coursework: Data Structures, Intro to Computing, Intro Biology, MVC, Differential Equations, Linear Algebra
- GPA: 4.2+/4.0

### The Harker School

San Jose, CA

High School Diploma

August 2020 - May 2024

- Relevant Courses: AP Computer Science A, Data Structures, Neural Networks, Compilers & Interpreters, AP Calculus BC, AP Statistics, Multivariable Calculus, Differential Equations, Linear Algebra, Discrete Math
- GPA: 4.0/4.0, SAT: 1600/1600

## SKILLS

- **Languages & Tools:** Python (NumPy, pandas, Matplotlib, TensorFlow, scikit-learn), R, C++, Java, Unix
- **Computational Modeling:** Machine learning, statistical modeling, single cell & spatial transcriptomics

## EXPERIENCE

### Columbia Engineering

New York, NY

Research Intern, Azizi Lab (Computational Cancer Biology Laboratory)

September 2025 - Present

- Leveraging deep generative modeling to analyze spatial transcriptomics and cell-state trajectories of epithelial cells in human graft-versus-host disease, coding in Python

### Columbia Summer Undergraduate Research Fellowship

New York, NY

Research Fellow, Abate-Shen Lab

May 2025 - August 2025

- Conducted immunohistological analysis of bone metastasis in prostate cancer using genetically-engineered mice
- Led product research and established contact with 20+ biotech suppliers to evaluate ex vivo cancer models

### Columbia University Irving Medical Center

New York, NY

Research Intern, Abate-Shen Lab

September 2024 - May 2025

- Developed statistical models in R to analyze RNA-seq data from genetically-engineered mouse models in lab

### Stanford Cancer Institute

Stanford, CA

Research Intern, Sunwoo Lab

June - August 2024, June - August 2023

- Performed molecular cloning, sequencing, & q-PCR to evaluate CAR-NK immunotherapy for head & neck cancer
- Conducted independent project on CRISPR-Cas9-mediated gene knockout, led quantitative analysis of results

### NewMind Discovery & Harker Labs

San Jose, CA

Independent Researcher

August 2020 - May 2024

- Proposed and executed 4 independent research projects in computational biology and disease pathology
- Designed & optimized deep learning models, statistical analyses, and image analysis pipelines in Python & R

### UC Davis Young Scholars Program (YSP)

Davis, CA

Research Scholar, Korf Lab

June - July 2022

- Participated in 6-week residential research program (<12% acceptance rate) at UC Davis Genome Center
- Developed algorithms to identify ultraconserved genomic elements (UCEs) across 4 plant species through integration of Python, Unix, JBrowse, & NIH BLAST, named "Summer Slam" awardee for best presentation

## PUBLICATIONS & AWARDS

- Columbia University: Egleston Scholar, Summer Undergraduate Research Fellow, Dean's List
- *ACM-BCB*: "Identifying Clock Gene Signatures Through Gene Expression Analysis for Cancer Therapy"
- *ICBCB (IEEE)*: "Identifying Neural Patterns and Biomarkers of ASD through Multi-phase Resting-State Functional MRI Analysis," DOI: 10.1109/ICBCB57893.2023.10246705
- 4x American Invitational Mathematics Exam (AIME) Qualifier, Math Prize for Girls (MP4G)
- 2x Regeneron International Science and Engineering Fair (ISEF) Grand Award
- Regeneron Science Talent Search Top 300 Scholar
- British Biology Olympiad Gold Medalist, USA Biology Olympiad National Semifinalist