

# JAMES FU

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## EDUCATION

### University of Texas at Austin

Expected Dec 2025

*M.S. in Data Science, GPA 3.9/4.0*

- Relevant Coursework: Data Science Statistics, Natural Language Processing, Probability and Simulation

### University of California, Los Angeles (UCLA)

Sep 2020 – Jun 2024

*B.S. in Computational Biology, Data Science, GPA 3.74/4.0*

- Relevant Coursework: Data Structures and Algorithms, Machine Learning, Probability and Discrete Math

## SKILLS

**Programming Languages:** Python, SQL, R, C++, JavaScript, HTML, CSS

**Frameworks:** PyTorch, TensorFlow, React

**Tooling and Systems:** Git, Jupyter Notebook (Anaconda), Pycharm, Tableau, APIs, ETL, Linux

**Libraries:** pandas, NumPy, scikit-learn, Matplotlib, Plotly, R Tidyverse

## EXPERIENCE

### Zipursky Lab

Sep 2023 – Jun 2024

*UCLA Undergraduate Research Thesis*

*Los Angeles, CA*

- Developed an ML pipeline using K-means to cluster 9M+ cells based on MERFISH spatial coordinates and gene expression. Identified three astrocyte subtypes and used SVM (87% accuracy) to validate them against known neuronal layer markers, assessing whether astrocytes exhibited similar layer specificity.
- Applied statistical modeling with Bonferroni correction to analyze 1,100+ genes, found 104 astrocyte markers.

### UCLA Semel Institute

Nov 2022 – Feb 2024

*Student IT Technician*

*Los Angeles, CA*

- Spearheaded procurement and rental of refurbished PCs, maintained inventory, performed hardware upgrades/RMAs, and troubleshooted hardware, reducing e-waste and saving \$10K+ annually.
- Imaged, encrypted, and deployed 100+ HIPAA-compliant PCs. Optimized network infrastructure for 150+ offices by utilizing batch scripts and Excel to track inventory and identify non-compliant hardware.

### Silicon Valley Education Foundation

Jun 2022 – Aug 2022

*Computer Science Innovate Teaching Assistant*

*San Leandro, CA*

- Facilitated student learning in introductory Python concepts taught via Adafruit's Circuit Playground Express.
- Designed and led 10+ Python lessons on recursion, control flow, data structures, and GitHub deployment.
- Debugged code and prepared supplementary coding tutorials and challenges to reinforce OOP concepts.

### UCLA Health

Jun 2021 – Aug 2021

*Web Developer*

*Los Angeles, CA*

- Improved the Emergency Medicine website used by 140+ residents by enhancing site structure and building 4+ pages with HTML, CSS, and JavaScript. Managed Drupal modules and updated SQL databases to maintain content and functionality.

## PROJECTS

### Equitable Healthcare Cost Modeling through Deep Learning

Apr 2024 – Present

- Built Faircare, a Python-Flask ML-powered healthcare cost modeling tool using React, surpassing 300+ visits in one month. Integrated synthetic data generation using MEPS dataset, increasing data volume by over 253%.

### Enhancing Robustness in Natural Language Inference (NLI) Models | [paper](#)

Oct 2024 – Dec 2024

- Extended Swayamdipta et al. dataset cartography codebase to support ELECTRA-small, addressing the BERT-base model limitation and optimizing the training set to prioritize hard-to-learn examples.
- Improved NLI robustness by 8% F1 when evaluated on 5+ novel contrast sets created by modifying an SNLI subset with syntactic distractors generated using OpenAI's GPT-4o API.

## LEADERSHIP

### UCLA Biomedical Engineering Society, Los Angeles, CA

Nov 2022 – Feb 2024

*Build Team Project Manager*

- Led a team of 35 undergraduates in a year-long project, developing and teaching weekly modules on Arduino (C++), Processing (Java), circuitry, and CAD to help teams develop a full-fledged pulse oximeter.