

# Tess Flinchbaugh

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Detail-oriented and analytical professional with strong programming, data analysis, and research skills that solve complex problems in scientific and technical environments. Experience in experimental design, data pipeline structure and creation, statistical model development, and research presentation, combining technical expertise with clear communication. Passionate about leveraging data-driven insights in roles that demand precision, critical thinking, and interdisciplinary collaboration.

## RESEARCH EXPERIENCE

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### UCLA Arisaka Lab

Los Angeles, CA

Research Assistant

Jan 2023 - Oct 2023

- Built experimental set up and data collection framework to collect movement data from *Drosophila melanogaster*
- Programmed automatic stimulus displays with microcontroller in C++
- Wrote analysis programs in LabVIEW, linking with C++ systems for instant communication and analysis of insect behavior

## PROFESSIONAL EXPERIENCE

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### UCLA

Los Angeles, CA

Digital and Technology Solutions: Assistant Audio/Visual Coordinator

April 2024 - June 2025

- Solved technological difficulties for all UCLA classes and events
- Evaluated classroom technology functionality and repaired existing issues
- Configured and deployed hardware

Women's Club Lacrosse: President

June 2024 - June 2025

- Create and manage team schedule, coordinate with other teams, UCLA administration, and league officials

### Visseiro

Berlin, Germany

Summer Intern - Data Analysis and Product Development

June 2023 - August 2023

- Designed and executed reference-sleep study, analyzed data with Python to identify physiological patterns during sleep
- Performed app testing on the Mako sensor assistance system for enhancing empathic care in stationary care facilities to ensure seamless integration of the mobile app with sensors
- Improved peak detection from ECG data by 10% and extracted HRV features from raw ECG data using Python
- Collaborated closely with experienced managers and demonstrated effective communication within a multidisciplinary team

## EDUCATION

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

Los Angeles, CA

Math/Applied Science

September 2021 - June 2025

- Concentration in medicine and life sciences, Specialization in Computing
- GPA: 3.89/4.0
- Relevant Coursework: Programming (C++, Python), Algorithms, Numerical Methods, Statistics, Chemistry Lab, Mathematical Modeling, Probability, Algorithms in Genetics, Optimization, Differential Equations, Physics Lab, Biology Lab

## PROJECTS

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### CruX UCLA

Los Angeles, CA

Team member

October 2021 - June 2025

- Developed EEG metrics-based BCI quantifying motor skill mastery with 70% accuracy
- Built data pipeline from physiological data extraction to feature analysis, using features in a regression model
- Presented experiment and methodology at California Neurotech Symposium
- Designed SVM with Python identifying users emotion from EEG data, using a fractal dimension analysis

### UCLA Math Department Directed Reading Program

Los Angeles, CA

Undergraduate Mentee

October 2023 - June 2024

- Collaborated with graduate student to study the derivation and motivation of calculus of variations from classical problems
- Researched applications of calculus of variations in areas such as optimization and mechanics
- Presented summary of derivation and important applications at UCLA Math Department colloquium

### UCLA Biosynthetic Consortium

Los Angeles, CA

Team member

October 2023 - December 2024

- Built bioreactor supporting the long term production of proteins and other macromolecules
- Controlled pH probe with Arduino, determining pH of bioreactor and adjusting pump to keep stable environment

## PROGRAMMING AND DATA SKILLS

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C++, Python, R, SQL, MatLab, LabVIEW, Excel, Tableau