

## CAITLIN TANG

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### Education

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#### UNIVERSITY OF CALIFORNIA, LOS ANGELES (UCLA)

Bachelors in Computational and Systems Biology (GPA 3.78)

September 2021 - June 2025

- Undergraduate Research Scholars Program (URSP) and scholarship recipient, National Merit Scholar - PPG Foundation, AT&T Technology Academy Certificate August 2023
- Relevant Coursework: C++/Python/R Programming, Bioinformatics, Machine Learning, Statistics, Data Science, Microbiology, Chemistry & Organic Chemistry, Algorithms, Biological Modeling, Computational Genetics

### Technical Skills

**Computational:** Python, Biopython, R Studio, C++, Matplotlib, Pytorch, Numpy, Microsoft Applications, Excel, Google Applications, Machine Learning, Database Management, Data Science, Technical Writing, Bioconductor, Github, HTML

**Lab:** Liquid Chromatography, electron paramagnetic resonance, chemical & electro competent cell transformation, DNA and protein electrophoresis, PCR, deep mutagenesis, DNA sequencing, Oxford Nanopore sequencing, Mass spectrometry

### Professional Experience

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#### UCLA PATHOLOGY & LABORATORY MEDICINE, Dr. Jasmine Zhou's Lab

Los Angeles, CA

Research Assistant

March '24 - Present

Manuscript: *A Highly Cost-Effective Cell-Free DNA Methylome Test for the Simultaneous Detection of Multiple Diseases*.

Zeng W, Liu CC, Li S, ..., Tang C, ..., Li W, Zhou XJ. To be submitted in early 2025

- Wrote and utilized ML models to process patient cell-free methylation data and mass spectrometry data to explore new clinical biomarkers and diagnostic tools for liver disease detection
- Evaluated non-invasive diagnostic methods on 200 Hepatitis B (HBV) patients using regression and classification models on patient methylation data
- Explored predictive models for clinical parameters utilized in liver disease diagnosis and detection
- Initiating and fostering collaboration with other labs overseeing mass spectrometry data for proteomics analysis and biomarker discovery

#### UCLA NEUROLOGY, Dr. Zhefeng Guo's Lab

Los Angeles, CA

Research Assistant

August '22 - March '24

- Building a ML model to create a personalized diagnosis for Alzheimer's Disease based on biomarkers
- Initiated a secondary analysis on the biomarker and imaging data of over 5000 patients in the Alzheimer's Disease Neuroimaging Initiative (ADNI) database
- Investigated the relationship of cerebral spinal fluid on Amyloid Beta protein aggregation
- Led a sequencing team studying mutational effects on protein aggregation with deep mutagenesis & sequencing

#### AMERICAN ACADEMY OF PEDIATRIC NEUROPSYCHOLOGY (AAPDN)

Remote

Contact Acquisition Project Manager (Intern)

January '23 - July '23

- Managed a team of six individuals by coordinating and assigning tasks during weekly meetings to expand AAPdN's contact database through web scraping and manual input methods
- Assessed AAPdN and its associated companies to streamline processes and streamlined the 30 company processes into 10 organized teams to improve the company's efficiency

#### CANYONS AQUATICS CLUB

Santa Clarita, CA

Assistant Coach

May '21 - August '21

- Created daily workouts and delivered them at practices to help young swimmers excel in their performance
- Mentored, coached, and motivated 60 swimmers to foster their mindset and practice teamwork

#### SELF-EMPLOYED

Santa Clarita, CA

Independent/Private Swim Coach

Aug '19 - Present

- Independently taught over 50 students between the ages of 3 to 60 essential swimming techniques
- Developed multilingual communication, money management, marketing, and negotiation skills