

ALLISON XIN

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EDUCATION

California Institute of Technology (Caltech)

B.S. Computer Science, Economics GPA: 4.2/4.0

Pasadena, CA

Graduation Date: June 2027

Relevant Coursework: Intro to Python, Calculus and Linear Algebra, Intro to Programming Methods, Decidability and Tractability, Introduction to Software Design, Algorithms, Learning Systems - Machine Learning, Introduction to Computing Systems, Distributed Computing, Machine Learning & Data Mining, Networks: Structure Economics, Bayesian Statistics, Introduction to Probability and Statistics

SKILLS

Programming Skills: Java, Python, C, R, MySQL, SQL

Developer Tools & Practices: GitHub VSCode, RStudio, IntelliJ

Artificial Intelligence: Machine Learning, Developing Generative Models, Training Models

EXPERIENCE

Caltech Hacktech Finalist

Competed in Healthcare track

Pasadena, CA

April 25 - April 27, 2025

- Built a Streamlit app to predict healthcare insurance charges, generate AI-driven counterfactuals, and visualize model performance using ML models like XGBoost and CatBoost.

Caltech - Amber Lab

Researcher - advised by Amy Li and Professor Yisong Yue

Pasadena, CA

Mar 2025 - Present

- Working on a project to develop an NLP/LLM-based user interface for a lower-body exoskeleton.
- Researching user personalization with LLMs for assistive devices exploring how an LLM can adapt to individual users over time based on interaction patterns and feedback.

Caltech - Teaching Assistant

Teaching Assistant for Professor Urmila Mahadev and Claire Ralph

Pasadena, CA

Mar 2025 - Present

- Run office hours for CS 38 a class on Algorithms as well as grading problem sets.

Teaching Assistant for Professor Chris Umans

Jan 2025 - Mar 2025

- Run office hours for CS 21 a class on Decidability and Tractability as well as grading problem sets

Caltech - Social Science Lab

Researcher - advised by Professor Jonathan Katz, Professor Gary King, Postdoc Danny Ebanks

Pasadena, CA

Jun 2024 - Present

- Continuing to refine model and prepare to publish model library based off summer work

Summer Undergraduate Research Fellowship

Researcher - advised by Professor Jonathan Katz, Professor Gary King, Postdoc Danny Ebanks

Pasadena, CA

Jun 2024 - Aug 2024

- Developed a generative statistical model to quantify electoral accountability in the context of congress elections with R coding language
- Developed a model library in R that provides a comprehensive toolkit for predicting and analyzing electoral outcomes for usability

University of Colorado, Boulder - Neuro Lab

Researcher - advised by Professor Matt Jones

Boulder, CO

Mar 2022 - Sept 2022

- Worked on a project about developing and testing mathematical models of learning and decision making
- Built a Java (version 12) based project and created graphs to analyze the performance of bayesian inference models compared to data from Jones & Sieck, 2003.

LEADERSHIP EXPERIENCE

CoFounder of my High School's Math Club

Aug 2021 - May 2023

- Co-Founder and President of my high school, Stargate's Math Club
- Started the club to spread interest in math, logic, and linguistics and provide opportunities to participate in math and linguistic competitions
- Offer American Mathematics Competition, (AMC 10/12) and North American Computational Linguistics Open Competition (NACLO) for Stargate students to take (only school in Colorado to offer NACLO)
- 2022-2023 added Mu Alpha Theta (Math Honors Society) to recognize all students who excel and mathematics and honor their dedication

NCAA DIII Varsity Swimmer - Caltech Swim & Dive

Sep 2023 - Present

AWARDS

Caltech Summer Undergraduate Research Fellow

Caltech (2024)

John W. Fisher Scholarship

Ball Corporation (2023)

National Merit Scholarship Finalist

National Merit Scholarship Corporation (2023)

AIME Qualifier

Mathematical Association Of America (2022)

Two Sigma AMC 10B Certificate

Mathematical Association Of America (2021)