Vincent Cheng

v11468161@gmail.com

EDUCATION

University of Texas at Austin
Bachelor of Mathematics, Minor in Computer Science 3.76 GPA *August 2021 - December 2025*
- Relevant Coursework: Data Structures and Algorithms, Machine Learning, Multivariate Calculus, Bayesian Statistics, Linear Algebra, Probability, Combinatorics, Real Analysis, Intro to Quantum Information Science

WORK EXPERIENCE

Oden Institute for Computational Engineering and Sciences Austin, Texas
Undergraduate Researcher *August 2023 - Present*
- Designing a custom neural network architecture combining SIREN periodic activation function to synthesize audio signals
- Conducting experiments to assess the model's performance in generating periodic visual patterns
- Learning modern Deep Learning techniques to further optimize current projects

UT Austin Statistics and Data Science Austin, Texas
Undergraduate Researcher *August 2022 - December 2022*
- Researched ways to estimate direct and indirect causes of healthcare costs in relation to smoking and general health using causal mediation analysis with double machine learning
- Collected and tidied data with several covariates to establish causation and account for confounding variables in medical research

1800 Gift Portal Weston, Florida
Software Engineer *May - August 2022*
- Developed program using Python, WebDriver, Selenium to automate shipping label process for online E-Commerce company
- Optimized code to increase labels per minute by 10%
- Using Google Map API to standardize incorrect U.S addresses with 80% accuracy, reducing manual checking time by 60%

PROJECTS

Kalshi-Polymarket Trading Bot
Developer *August 2024 - Present*
- Developed an automated trading bot integrating Kalshi and Polymarket platforms to execute trades based on real-time market data using Websockets
- Utilized Kalshi API and Polymarket-API to access and manage market information, enabling seamless interaction with both trading platforms.

ScholarSense
Software Engineer *May 2023 - August 2023*
- Collaborated with a group of individuals to create and launch a web application that allows people to find scholarships tailored towards them
- Developed a ranking algorithm utilizing OpenAI text embeddings
- Created reusable UI components using React and Typescript

LEADERSHIP EXPERIENCE

UT Austin Department of Mathematics
Teacher Assistant *August 2022 - Present*
- Served as a teaching assistant for M325K - Discrete Mathematics
- Lead weekly recitations and office hours to reinforce student understanding of course content
- Graded homework assignments and provided detailed, constructive feedback to over 50 students weekly

SKILLS

Engineering
- **Programming** - Python, R, Java, C/C++, LaTeX, Javascript, HTML, CSS, Typescript, MySQL
- **Tools** - Git, Github, Websockets, Microsoft Excel, Tensorflow, Pytorch, Pandas, Next.js, Node.js, React, Selenium, WebDriver, Django

AWARDS

- 2022 Putnam Competition: Top 600 Participant
- AIME Qualifier (Top 5% of American Mathematics Competition 12 participants, nationally)
- Correlation One Summer Invitational Terminal 2022: Top 200 Global