Sheryl Hsu

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Education

STANFORD UNIVERSITY | STANFORD, CA | 2022 - PRESENT

- Bachelors of Science in Computer Science (expected graduation June 2026)
- Relevant coursework: CS 107: Computer Organization & Systems, CS 221: Artificial Intelligence: Principles and Techniques, Math 61CM (proof-based multivariable calculus, linear algebra, analysis)

VALLEY CHRISTIAN HIGH SCHOOL | SAN JOSE, CA | 2018 - 2022

- Valedictorian, National Merit Finalist, 16 AP classes taken

Skills

- **Languages**: Java, Python, c++, c, SQL
- **Libraries:** Matplotlib, OpenCV, React, SwiftUI
- **Research:** LateX, technical writing, data analysis
- **Personal:** Self-management, communication

Experience

RESEARCHER | STANFORD EMPIRICAL SECURITY RESEARCH GROUP | APR 2022 - PRESENT

- Analyze the contents of the Chrome Web Store
- Program multithreaded crawler to parse metadata from Chrome Web Store sites, download extension source code, and store information in SQL database
- Aggregate data and create graphs using Python

FOUNDER & DEVELOPER | ELICKER | JAN 2022 - PRESENT

- Create elicker, which is an app that helps musicians organize licks and exercises, using SwiftUI
- Over 150 downloads on Apple App Store, released September 2022

INTERN | MATH HAPPENS FOUNDATION | FEB - SEP 2022

- Created project Roads To Quicksilver to teach visitors about Kruskal's minimal spanning tree algorithm by challenging them to build a spanning tree between pegs on a piece of wood
- Used OpenCV to create computer vision algorithm that recognizes spanning trees the user builds
- Wrote GUI in React and Django backend to display instructions and feedback to user
- Visited by over 300 people at Almaden Quicksilver Mining Museum's Play Like a Minor event

CEO | VALLEY CHRISTIAN MATE ROV UNDERWATER ROBOTICS TEAM | AUG 2018 - JUNE 2022

- Developed control system, coral identification program, Ethernet camera streaming software, and GUI
- Lead team to two top 5 finishes at worlds, first world championship qualification in school history

RESEARCHER | MIT PRIMES-USA | JAN 2021 - FEB 2022

- Created algorithm for the Steiner tree problem based on cellular automata model of *Physarum*
- Published papers "Cell fusion through slime mold network dynamics" in J R Soc Interface, April 2022 and "A Physarum-inspired approach to the Euclidean Steiner tree problem" in Sci. Rep., Aug 2022
- Programmed algorithm in Java, ran trials using AWS Batch & Docker, analyzed data in Python

Awards

- **Research:** Regeneron Science Talent Search Scholar, ISEF(International Science & Engineering Fair) Finalist, ISEF CIA Special Award Winner, Silicon Valley Synopsys Science Fair Grand Prize Winner
- **Competitive programming:** USACO Gold, Google Code Jam 2021 Round 2 Qualifier
- **Mathematics:** 3x AIME Qualifier, AMC 10 Distinguished Honor Roll
- **Leadership and community service:** Coca Cola Scholars Regional Finalist (top 300), Atlas Finalist