# Sheryl Hsu

sherylhsu02@gmail.com | +1 669 216 6410 | sher222.github.io

## Education

**Stanford | 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, JavaScript, CSS, HTML
- **Libraries:** Matplotlib, OpenCV, React.js, SwiftUI
- **Research:** technical writing, data analysis
- **Other:** Git, Excel, data structures & algorithms

## Experience

**Researcher | Stanford Empirical Security Research Group | Apr 2022 - Present**

- Analyze the contents of the Chrome Web Store (over 100,000 extensions)
- 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 200 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 React GUI 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
- Led 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*
- First author of 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