

CAROLYN RUAN

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EDUCATION

Caltech, Pasadena, CA

Sept 2024 - June 2028

Bachelor of Science, Computer Science

GPA: 4.0

Minor in Mathematics, Minor in Information + Data Sciences

Relevant Coursework: *Discrete Mathematics, Data Structures, Software Design, Theory of Computation, Linear Algebra, Vector Calculus, Computational Methods (Matlab)*

Activities: NCAA DIII Varsity Women's Basketball, Lloyd House, Quesadilla Reviewer, House IMSS Representative

Monta Vista High School, Cupertino, CA

Aug 2020 - June 2024

GPA: 3.98 UW/4.61 W

Standardized tests: SAT 1600, 5s on eleven AP exams

Relevant Coursework: *AP Computer Science A, AP Calculus BC, AP Statistics, AP Physics C: Mechanics and E&M*

Dual Enrollment (GPA: 4.0): *Multivariable Calculus, Intermediate Programming Methodologies in C++*

Activities: Varsity Girls Basketball, Photo Club Co-Founder/President, Study Buddy Society Tutor, National Honor Society

HONORS AND AWARDS

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|---|------------|
| • Presidential Scholar Candidate | 2024 |
| • All-Bay Area News Group Girls Basketball Team | 2024 |
| • 2x AIME (American Invitational Mathematics Examination) Qualifier (AIME: 6) | 2022, 2023 |
| • National Merit Semifinalist | 2023 |
| • AP Scholar with Distinction | 2023 |
| • Berkeley Math Tournament Honorable Mention in Algebra and Geometry | 2023 |
| • USACO (USA Computing Olympiad) Silver; passed USACO Bronze with perfect score | 2020 |
| • Presidential Volunteer Service Award, Silver | 2020 |

SKILLS

Programming Languages: *Java, C++, Python, Javascript, HTML, CSS, Mathematica*

Platforms/Tools: *React, Linux, Bash, Git, VSCode*

PROJECTS

Light Painting Robot Arm

Jan 2025

- 3-DOF robot arm that light paints with LEDs in a vertical 2D plane (Raspberry Pi Pico)
- Used Holistically-Nested Edge Detection (HED) deep-learning model to translate user-inputted images into vector paths for the robot to follow
- Presented at Los Angeles Maker Faire and City of STEM

EXPERIENCE

Student Researcher in Reisman Lab

Jan 2025 -

- Developing machine learning models and stopping criterion to predict regioselectivity in C–H oxidation reactions

Jane Street WiSE Program

July 2024 - Aug 2024

- 1 of 96 chosen participants for a multi-day program in game theory, strategic trading, and quantitative finance.

Hampshire College Summer Studies in Mathematics

June 2023 - Aug 2023

- Selective (<7% acceptance rate) 6-week math program with an entrance test.
- Explored college-level mathematics for 8 hrs/day, with a focus on probabilistic modeling (ex. Poisson distributions) through Mathematica.
- Covered lectures and program events in the Program Journal.

Software Engineer Intern, Blueprint

Jan 2022 - Apr 2022

- Worked with a team of UC Berkeley CS graduates and fellow interns to develop software for a Y-Combinator-backed health tech startup.
- Developed user interface components using React, CSS, and JavaScript (new skills acquired through a short ramp-up).