

# David Chen

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## Education

### Harvey Mudd College

B.S. in Computer Science, Harvey S. Mudd Merit Scholar

Relevant Coursework: Principles & Practice: Computer Science, Single & Multivariable Calculus

Claremont, CA

Aug 2021 - May 2025

### Princeton High School

GPA: 4.0/4.0 (4.7/5 weighted), National Merit Scholar, National AP Scholar

Activities: PHS Algorithms Club (Captain), Princeton Soccer Association (Captain)

Relevant Coursework: AP Computer Science, Data Structures and Algorithms, Multivariate Calculus and Linear Algebra, AP Statistics

Princeton, NJ

Sep 2017 - Jun 2021

### Independent Study

2020 - 2021

Stanford graduate courses (CS221, 231n, 224n, 230): Artificial Intelligence, Computer Vision, Natural Language Processing, Deep Learning

## Work Experience

### Microfluidics and Biomaterials Lab

Claremont, CA

STUDENT RESEARCHER - DATA VISUALIZATION AND WEB DEVELOPMENT

Sep 2021 - Present

- Created visualizations for critical reflection on the engineering design process to promote non-linear design and diverse team culture
- Built personalized web dashboard for individual and team self-reflection, automatically integrating plots from Python and R

### Scout AI (backed by Y Combinator)

Mountain View, CA

SOFTWARE ENGINEER INTERN

May 2021 - Aug 2021

- Designed and built merchant-facing real-time restaurant promotion iOS app with Swift/Firebase, created demos for pitch deck
- Set up Auth/Firestore to sync with consumer app, emulated and deployed Node.js Cloud Functions to notify users and clean data
- Brainstormed and implemented business strategies based on restaurant feedback centered on loyalty and growth

### Google

Mountain View, CA

COMPUTER SCIENCE SUMMER INSTITUTE

July 2021 - Aug 2021

- Expanded and presented 15 daily projects with JavaScript/Firebase, mentored by Google engineers in advanced track
- Co-developed a crowdsourced trip planner final project and presented to Google employees and community leaders

### Slingshot

Pittsburgh, PA

SOFTWARE ENGINEER

Oct 2020 - May 2021

- Unified GitHub, Trello, and Google Apps in responsive company-wide automation portal with React and Firebase
- Modularized, documented, and updated deprecated code bases to modern development standards using React components
- Led teaching and outreach events: taught a 6-week algorithms bootcamp and wrote problems for the UAE's first algorithmic codathon

MACHINE LEARNING RESEARCH INTERN

Jul 2020 - Oct 2020

- Researched keystroke dynamics (typing patterns) and built React Native app for non-intrusive mobile continuous verification
- Reached 89% classification accuracy with ensemble voting system tuned to sparse data, compared to 68% from baseline KNN models

## Activities

### P-ai

Claremont, CA

P-CLIMATE PROJECT MEMBER

2021 - Present

- Reconstructed historical climate information by preparing tree ring data and building recurrent neural networks robust to noise

### Product Space

Claremont, CA

PRODUCT MANAGEMENT FELLOWSHIP

2021 - Present

- Participated in weekly interactive workshops and guest events, learning and developing essential product management skills

### PHS Math Team

Princeton, NJ

CAPTAIN

2016 - 2021

- Curated topics, designed resources, and led team practices for 30 members with a focus on teamwork and engagement
- Qualified and competed in national tournaments (Princeton, Harvard/MIT, CMU, Lehigh), 2nd at USMCA National Finals

## Projects

**Ruzzle Solver:** Designed first mobile-only Python program to automate a word finding game with OCR, graph theory, and prefix tries

**Reddit Username Generator:** Trained LSTM/GRU models on 400k usernames for text generation, integrated into React through TF.js

**pingmote:** Developed hotkey triggered cross-platform global emote picker to create and quickly insert custom images and gifs

**Arduino & RasPi Self-Driving Car:** Built obstacle avoiding robot, tuned ROS models in Gazebo sim to speed up maze navigation by 37%

## Awards

**Citadel - The Data Open:** 1st Place - West Coast (\$10,000 prize)

2021

**Competitive Math/Programming** AIME: 8 (3x qualifier, AMC 12 distinction), USACO Gold, Lockheed Martin (1st)

2019 - 2021

**Hackathons:** HackPHS 2020 (1st): SMS-based virtual learning, HackPHS 2019 (3rd): Sentiment investing advisor

2019 - 2020

**Carnegie Mellon Cybersecurity PicoCTF:** Top 50 of 5,000+ teams and 25,000 people

2019

## Skills

**Languages:** Fluent in Python; Familiar with HTML/CSS/JS, TypeScript, Swift, Java, C/C++, SQL

**Technologies:** Firebase, React, React Native, Next.js, Node.js, Flask, TensorFlow, Pandas, Selenium, UIKit, Git, Linux, LaTeX