

# David Chen

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## Education

### Harvey Mudd College

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

Claremont, CA

Aug 2021 - May 2025

### Princeton High School

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

Princeton, NJ

Sep 2017 - Jun 2021

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

### Independent Study

Stanford graduate-level courses: Artificial Intelligence, Computer Vision, Natural Language Processing, Deep Learning

## Work Experience

### 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 app with Swift/Firebase, created demos for pitch deck
- Set up Auth/Firestore to sync with consumer app, emulated and deployed 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 on mini-projects with React/Firebase following style guides, mentored by Google engineers in advanced track
- Delivered a collaborative final project presentation and live demo to Google employees and community leaders

### Slingshot

Pittsburgh, PA

SOFTWARE ENGINEER

Oct 2020 - May 2021

- Unified GitHub, Trello, and Google Apps with React and Firebase in responsive company-wide automation portal
- Modularized, documented, and updated deprecated code bases to modern development standards using React components
- Wrote the UAE's first national algorithmic codathon, identifying talent and tripling Discord server to 400 members
- Prepared hour-long lectures and coursework for 10 students in a 6-week algorithms bootcamp, provided 1-on-1 guidance

MACHINE LEARNING RESEARCH INTERN

Jul 2020 - Oct 2020

- Selected from top 3% of hundreds of applicants worldwide based on technical ability and leadership potential
- Researched keystroke dynamics (typing patterns) and built React Native app for non-intrusive mobile continuous verification
- Reached 89% accuracy compared to 68% from baseline models, integrated natural language processing through TensorFlow

## Leadership Experience

### PHS Math Team

Princeton, NJ

CAPTAIN

2016 - Present

- Curated topics, designed resources, and organized competitions for 30 members with a focus on teamwork and engagement
- Qualified and competed in national tournaments (PUMaC, HMMT, CMIMC); 2nd at USMCA National Finals

### PHS Algorithms Club

Princeton, NJ

CAPTAIN

2017 - Present

- Adapted complex material and taught 20 members algorithmic topics weekly, hosted monthly mock contests

### Princeton Soccer Association

Princeton, NJ

CAPTAIN

2011 - 2020

- Dedicated team player and leader, motivated national level team (top 30 NJ) in competitions across east coast

## 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

**MNIST Digit Recognizer:** Tested various CNN architectures on 42,000 images, reached 99.664% test accuracy (top 150/2000+ on Kaggle)

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

## Awards

**Math Contests:** AIME: 8 (3x qualifier, AMC 12 distinction), CMIMC Combinatorics/CS (5th), PUMaC (Indiv. Finals)

2019 - 2021

**Competitive Programming:** USACO Gold, Lockheed Martin (1st), Lexington (2nd), Montgomery Blair (2nd)

2017 - 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++

**Technologies:** Firebase, React, React Native, Next.js, TensorFlow, Flask, UIKit, Git, Linux