David Chen

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Education

Harvey Mudd College — *Claremont, CA*
B.S. in Computer Science, Harvey S. Mudd Merit Scholar — *Aug 2021 - May 2025*
Relevant Coursework: Principles & Practice: Computer Science, Single & Multivariable Calculus

Princeton High School — *Princeton, NJ*
GPA: 4.0/4.0 (4.7/5 weighted), National Merit Scholar, National AP Scholar — *Sep 2017 - Jun 2021*
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

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 — *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 student 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*
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*

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