David Chen

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Education

Harvey Mudd College *Claremont, CA*

B.S. in Computer Science and Mathematics (GPA: 3.97), Dean's List, Harvey S. Mudd Merit Scholar *Aug 2021 - May 2025*

Relevant Coursework: Data Structures, Multivariable Calculus, Linear Algebra, Discrete, Econometrics

Activities: Student Mentor, CS 42 Grader/Tutor, Game's Club Co-President, Volleyball, Badminton, Frisbee, Spikeball

Princeton High School *Princeton, NJ*

GPA: 4.0/4.0 (4.7/5 weighted), National Merit Scholar, National AP Scholar *Sep 2017 - June 2021*

Activities: PHS Math Team (Captain), 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

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

Work Experience

Google *Pittsburgh, PA*

STEP Intern - Cloud AI and Industry Solutions *May 2022 - Aug 2022*

- Created a JupyterLab Notebooks extension with React to integrate Vertex AI Pipelines
- Led design and implementation of UI support to create and interact with pipelines, simplifying workflow and minimizing boilerplate
- Maintained UX design and code consistency with existing JupyterLabs extensions, refactoring shared functionality and tests
- Researched potential methods for pipeline visualization, exploring open source alternatives and documenting limitations

Computer Science Summer Institute *July 2021 - Aug 2021*

- Extended and presented 15 daily projects and capstone with JavaScript/Firebase, mentored by Google engineers in advanced track

Scout AI **(backed by Y Combinator)** *Mountain View, CA*

Software Engineer Intern *May 2021 - Aug 2021*

- Designed and built live restaurant-facing promotion iOS app with Swift/Firebase, created demos for pitch deck
- Set up database to sync with consumer app, emulated and deployed Node.js Cloud Functions for notifications and data cleaning
- Brainstormed and implemented business strategies based on restaurant feedback centered on loyalty and growth

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
- 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 *July 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

Academic Research

Path Complexity - Lucas Bang *Claremont, CA*

Student Researcher *Aug 2022 - Present*

- Developed improved code complexity metrics, researching applications to software testing and mental effort in code comprehension

Microfluidics and Biomaterials Lab - Steven Santana *Claremont, CA*

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

Backgammon - Arthur Benjamin *Claremont, CA*

Sundeman Research Assistant *Mar 2022 - May 2022*

- Developed website for rapid iteration regression testing to create optimal, memorable backgammon strategies based on game state

Activities

Product Space: Product Management Fellowship *Sep 2021 - May 2022*

- Participated in weekly interactive workshops and guest events, learning and developing core product management skills
- Industry Capstone: Analyzed data and designed specialized machine learning methods to recommend candidates to recruiters

P-ai: Project P-Climate *Sep 2021 - Dec 2021*

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

Projects and Awards

Citadel - Data Open Championship (2022): 1st Place Globals ($100,000 prize)

Citadel - The Data Open (2021): 1st Place West Coast ($10,000 prize)

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

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

Skills

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

Technologies: React, React Native, Next.js, Firebase, Jest, Flask, Node.js, TensorFlow, Pandas, Git, Linux, Latex