David Chen

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Education

Harvey Mudd College *Claremont, CA*
B.S. in Computer Science and Mathematics (GPA: 3.98), Dean's List, Harvey S. Mudd Merit Scholar *Aug 2021 - May 2025*
Coursework: Data Structures, Algorithms, Machine Learning (graduate), Big Data, Computability, Linear Algebra, Discrete, Econometrics
Activities: Student Mentor, CS Grader/Tutor, HMC Data Science Co-President, Game's Club Co-President, Badminton Club

Princeton High School *Princeton, NJ*
GPA: 4.0/4.0 (4.7/5 weighted), National Merit, National AP Scholar, Captain of Math Team and Algorithms Club *Sep 2017 - June 2021*
Independent Study (Stanford graduate courses): Artificial Intelligence, Computer Vision, Natural Language Processing, Deep Learning

Work Experience

Stripe *South San Francisco, CA*
SOFTWARE ENGINEER INTERN - SERVICE FRAMEWORKS *May 2023 - Aug 2023*
- Improved cross-language gRPC support across Ruby and Java by bringing consistency and feature parity to backend infrastructure
- Created error parsers in Ruby and Java for robustly handling and decoding gRPC exceptions, migrated 40+ existing implementations
- Replaced manual creation of Ruby gRPC clients for Java services by writing Bazel rules to autogenerate Java gRPC clients in Scala
- Designed and created highly-demanded company-wide Slack command to simplify giving kudos to multiple recipients

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

Academic Research

ALPAQA Lab - Lucas Bang *Claremont, CA*
STUDENT RESEARCHER - PATH COMPLEXITY *Aug 2022 - Present*
- Developed improved code complexity metrics for predicting symbolic execution path explosion, presented at FormaliSE 2023
- Designed, tested, and implemented extension from recursion to inter-procedural calls, fixed major computational bug

Microfluidics and Biomaterials Lab - Steven Santana *Claremont, CA*
DATA VISUALIZATION AND WEB DEVELOPMENT *Sep 2021 - May 2022*
- 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

Projects and Awards

Citadel - Data Open Championship (2021-2022): 1st Place Globals ($100,000 prize), 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, JavaScript; Familiar with Java, Ruby, Swift, C, C++, Scala, SQL
Technologies: React, React Native, Next.js, Firebase, Jest, Bazel, Dagger, Flask, Node.js, TensorFlow, Pandas, Linux, Latex