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 2022-May 2026*

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

# Work Experience

**Stripe** *South San Francisco, CA*

SOFTWARE ENGINEER INTERN - SERVICE FRAMEWORKS *May 2024 - Aug 2024*

* 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 2023 - Aug 2023*

* 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 2022 - Aug 2022*

* 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 2022 - Aug 2022*

* 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 2021 - May 2022*

* 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 2021 - Oct 2021*

* 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 2023 - 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 2022-May 2023*

* 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 2023 - May 2023*

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

# Activities

**Product Space: Product Management Fellowship** *Sep 2022 - May 2023*

* 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:** 1st Place Globals ($100,000 prize), 1st Place West Coast ($10,000 prize)

[**Ruzzle Solver:**](https://github.com/dchen327/ruzzle-solver)Designed first mobile-only Python program to automate a word finding game with OCR, graph theory, and prefix tries

[**Reddit Username Generator:**](https://github.com/dchen327/reddit-username-generator)Trained LSTM/GRU models on 400k usernames for text generation, integrated into React through TF.js [**Arduino & RasPi Self-Driving Car:**](https://github.com/dchen327/Arduino-Obstacle-Avoiding-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