

# Gabriel Chapman (Chappy) Asel

116 Daphne Way, East Palo Alto, CA 94303

chappyasel@gmail.com • (703) 677-2825

chappyasel.com • linkedin.com/in/chappyasel

## EXPERIENCE

- Sep '21 – Present **Apple, Inc.** – *AR/VR Software Engineer* **Sunnyvale, CA**
- Frameworks engineer in Technology Development Group (TDG) working on future AR/VR products
  - Led and orchestrated internal API review, refactoring, and public documentation curation efforts
  - Shipped new App Intents cross-platform framework at WWDC '22 to much developer praise, critical acclaim
  - Contributing to highly collaborative, cross-functional design meetings with Shortcuts, Siri, system apps etc.
  - Driving multiple new framework features; DRI for large, critical components of existing functionality
  - Active participant in AR/VR, AI/ML, and computer vision demo and algorithm deep dive sessions
  - Presently working with AR/VR UI frameworks team on feature enablement as software engineer on loan
- Jan '21 – Apr '21 **Proof Diagnostics, Inc.** – *Engineering Consultant* **Seattle, WA**
- Startup developing all-in-one solution for CRISPR-based COVID-19 molecular testing
  - Developed initial website in preparation for public launch in collaboration with design and engineering teams
  - Implemented components of low-level BLE object transfer protocol between firmware and mobile app
  - Identified and fixed critical, longstanding flaws in implementation of firmware
  - Regularly consulted with CEO and CTO to provide critical technical and strategic guidance
- Jul '20 – Sep '20 **Apple, Inc.** – *AI/ML Software Engineering Intern* **Seattle, WA**
- Conducted a user study to answer key questions and determine metrics for eye tracking on mobile devices
  - Implemented an algorithm for dynamic eye tracker recalibration based on existing system interactions
  - Designed a system for pre-loading asynchronous content using interest prediction derived from gaze data
  - Demoed a proof-of-concept of intelligent UI element selection, leveraging gaze data and voice input
  - Created a reusable iOS launch daemon for study control and data collection in future studies within Apple
  - Developed a modular iOS gaze framework, facilitating the development of future gaze-powered experiences
  - Presented project findings to AI/ML organization executives and team leads with positive reception
- Jan '20 – Mar '20 **Meta Platforms, Inc. (Formerly Facebook, Inc.)** – *Software Engineering Intern* **Menlo Park, CA**
- Led design and implementation of new system-wide interfaces and notification flows to enable relevancy- and permissions-based forwarding to a profile's assigned administrator roles for a major upcoming product release
  - Drove collaboration with multiple cross-functional teams to integrate seamlessly within existing infrastructure
  - Implemented both backend (Hack, GraphQL) and frontend (JavaScript), including API mocking functionality
  - Created an extensive suite of accompanying unit and integration tests to confirm functionality
  - Worked with the QA team on performing a notification audit to ensure intended product behavior
- Jun '19 – Dec '19 **Xevo, Inc. / Lear Corporation** – *SDE I - AI UX / SDE Intern* **Bellevue, WA**
- Worked on developing SQL / Python transformation scripts and jobs to transform raw user telemetry data into high-level trip / destination / POI info for use in predictive machine learning models
  - Designed and implemented a Snowflake / AWS Kinesis pipeline to take processed telemetry data and determine user POIs via a reverse geocoding job running periodically on a Javascript Lambda
  - Developed a DBSCAN-esque MySQL clustering algorithm to aggregate user data into high-order insights
  - Engineered an in-house tool to visualize user telemetry data using Vue JS, React JS, Mapbox GL, and Python Flask and deployed to AWS using Docker / Kubernetes
  - Gained expertise in other technologies including Terraform, Mixpanel, and more

## **EXPERIENCE**

- Jun '18 – Sep '18 **Lime (Neutron Holdings, Inc.) – Software Engineering Intern** **San Francisco, CA**
- Initiated and led a complete redesign of the iOS app, unifying and simplifying the company design language
  - Implemented a persistent rating system, increasing usage by 15% and enabling new performance metrics
  - Refreshed the in-app referral system to use Branch.io deep links, increasing key user acquisition metrics
  - Designed and programmed an in-trip zones interface, leading endpoint refactoring efforts to allow for warning users of potential fines that could be faced based on no-service and no-parking zones
  - Led design and implementation efforts of a backend-driven animated 'how to ride' screen, allowing for per-region rules and regulations and helping the government relations team meet per-city requirements
  - While working at Lime, company headcount and iOS ridership nearly doubled to over one million MAU
- Oct '17 – Mar '18 **Suplari, Inc. – Engineering Intern** **Seattle, WA**
- Suplari is an AI-driven procurement analytics and insights platform which was acquired by Microsoft in 2021
  - Developed a card-based supplier database normalization app to assist in ML model training
  - Implemented an Auth0-based custom authentication system to mesh with existing sign in methods
  - Developed an accompanying Python Flask-based Google Cloud endpoints backend for on-the-fly changes to categorization parameters and cloud storage, processing of normalization results
- Jul '16 – Aug '16 **Gigwalk, Inc. – Software Engineering Intern** **San Francisco, CA**
- Gigwalk allows businesses to collect data and execute remote tasks by connecting them with the gig economy
  - Assisted in the development of a public JavaScript API for use both internally and externally by third parties which eventually came to comprise Gigwalk's primary source of business
  - Designed and programmed 100+ unit tests using during continuous integration to ensure public API stability
- Jul '16 – Jul '16 **Rokid, Inc. – Product Design Intern** **Hang Zhou, China**
- Rokid specializes in the research and product development of artificial intelligence and mixed reality
  - Shadowed artificial intelligence, deep learning, and scripting development efforts
  - Assisted with app string translation (Mandarin Chinese, English) and multilingual product testing in preparation for launch in the United States
- Jul '15 – Jul '15 **Gigwalk, Inc. – Mobile Engineering Intern** **San Francisco, CA**
- Worked with chief mobile developer on feature scoping for enterprise iOS application
  - Developed new features for both iOS and Android mobile workforce management platforms
- Jul '12 – Jul '12 **Electronic Arts, Inc. – Intern** **Redwood City, CA**
- Participated in orientation program introducing all stages of game development, testing and marketing
  - Worked in new product development group testing unreleased games
- Jul '12 – Jul '12 **Respawn Entertainment, LLC – Product Testing Intern** **Los Angeles, CA**
- Worked with core development team providing in-depth early-stage testing and bug reporting
  - Shadowed all stages of the game development process

## **HIGHLIGHTED PROJECTS**

- Aug '17 – Present **Weightlifting App – iOS App Store**
- Gamified platform to track and analyze user workouts complete with intelligent feedback, online leaderboards
  - Solely managing all product design, marketing, data science/analytics, and customer support/feedback efforts
  - Developed a Node.js backend running on AWS EC2 for notifications, leaderboards, user backups, etc.
  - Contains multiple heuristic algorithms to gamify user progress via achievements and milestones
  - Designed a Keras deep neural network (exported to CoreML) to predict user workout names
  - 40k+ installs, 3k+ MAU, 2m+ sessions, 4.7 star rated, top-10 weightlifting app

## **HIGHLIGHTED PROJECTS**

Jun '18 – Present **Web Experiments** – [github.com/chappyasel/webexperiments\\_backend](https://github.com/chappyasel/webexperiments_backend)

- A monorepo hosting a variety of personal exploratory projects, including the source code for chappyasel.com
- Architected a React frontend, Node/Express/PHP/MySQL backend deployable on AWS EC2
- Weightlifting App – Backend for notifications, leaderboards, feedback, user backups, pre-release testing, etc.
- Liar's Dice – A tool to assist in deriving probabilities and optimal play in the poker-like game Liar's Dice
- ESPN Fantasy Football – Gathers IBM Watson insights to predict fantasy football matchup win probabilities

Jun '21 – Aug '21 **Vita** – [github.com/chappyasel/vita](https://github.com/chappyasel/vita)

- A cross-platform daily journaling app with private cloud syncing and JSON data export support
- Developed working proof-of-concept implementation leveraging new technologies such as CloudKit, SwiftUI

Jan '21 – Jun '21 **DecorPie** – [instagram.com/decorpie\\_official](https://instagram.com/decorpie_official)

- CTO and leader of the marketing and design teams in our eight-person team
- Coordinated efforts to conduct 50+ interviews, 200+ respondent survey during product ideation phase
- Solely designed and maintained website, driving 80+% of total sales volume (versus in-person market sales)
- Generated over \$1k net profit on \$9k+ gross sales, surpassing original target and finishing near top-of-class

Jan '18 – Jan '18 **Weightlifting App ML** – [github.com/chappyasel/weightliftingappml\\_python](https://github.com/chappyasel/weightliftingappml_python)

- A series of scripts written in Python using Weighting App data to train a Keras classifier deep neural network for the purpose of workout name prediction based on the type of exercises performed
- Includes scripts to automatically export trained model to Core ML for native in-app deployment

Aug '16 – Jan '19 **Homework App** – *iOS App Store*

- Platform for organizing, keeping track of, and reminding users of upcoming homework assignments
- Negotiated terms personally for acquisition by Haystack AI on January 23<sup>rd</sup>, 2019
- Upon acquisition: 338k installs, 63k MAU, 4.7 star rated, #1 global homework app, top-60 productivity app

## **EDUCATION**

2017 – 2021

**University of Washington**

**Seattle, WA**

- BS, Paul G. Allen School of Computer Science; Entrepreneurship minor from Foster School of Business
- Courses include: Create a Company, Venture Investing, Software Entrepreneurship, Entrepreneurial Marketing, Machine Learning, Intro to Artificial Intelligence, Distributed Systems, Intro to HCI, Computer Ethics
- Graduated with *magna cum laude* honors – top 3.5% of major class
- Dean's List recipient in 10/10 eligible quarters; major GPA: 3.84; cumulative GPA: 3.87

2013 – 2017

**Thomas Jefferson High School for Science & Technology**

**Alexandria, VA**

- #1 nationally ranked magnet school; developed semi-autonomous go-kart in senior Automation & Robotics lab
- Courses include: AP Micro/Macro (5/5), AP CS (5), Artificial Intelligence, Robotics; GPA: 4.3

## **SKILLS**

- Leadership, communication and collaboration, presentations and public speaking, time management and reliability, detail-oriented
- Problem solving, product strategy and growth marketing, quantitative and qualitative research, quick learner with a growth mindset
- Programming expertise in Swift, Objective C, C/C++, JavaScript/TypeScript, Python, Java, PHP/Hack, SQL, HTML/CSS
- Proficient with Google/Microsoft Office Suites, Tableau, Jupyter, Jira/Asana, Adobe CC (Photoshop, Illustrator etc.), AWS, GCP

## **PERSONAL**

- Avid reader and podcast listener (40+ books/year) – interests include business, economics, psychology, futurism, AGI, biotechnology
  - Recommended reads: *A Thousand Brains*, *AI Superpowers*, *Homo Deus*, *Life 3.0*, *Range*, *Thinking, Fast and Slow*, *Thinking in Bets*
  - Recommended listens: *Acquired*, *All-In*, *Founders*, *How I Built This*, *Huberman Lab*, *Invest Like the Best*, *Lex Fridman Podcast*
- Passion for world travel – visited 25+ countries; three-week Europe solo backpacking trip; lived in Beijing, China for three years
- Natural bodybuilding and physique competitor – placed 2<sup>nd</sup> and 3<sup>rd</sup> respectively in 2022 INBF Battle of the Bay
- 5-time Tough Mudder; 2-time century biker; 4-year high school basketball player – starting forward, led team to regional tournament
- Completed ten-day Outward Bound rafting & mountaineering course; Brother at Delta Tau Delta – Gamma Mu chapter