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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
- Hosted developer Q&A and one-on-one consulting sessions at WWDC 2022 after initial public release
- 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**
- Proof is a stealth startup developing CRISPR-based COVID-19 testing; subsequently raised $45M Series A
- 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 application
- Identified and fixed critical, longstanding flaws in implementation of firmware
- Weekly reviews with CTO and CEO on technical and strategic matters

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**
- Xevo is a connected car technology firm; insight into acquisition process after Xevo was sold to Lear for $320M
- Founding member of exploratory project team to generate high-order intelligence from raw user telemetry data
- Worked on developing SQL / Python transformation scripts and jobs to transform 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. Other technologies include Terraform and Mixpanel

EXPERIENCE

Jun '18 – Sep '18 **Lime (Neutron Holdings, Inc.)** – *Software Engineering Intern*   **San Francisco, CA**
- Lime is the largest global micro-mobility company, operating in 30+ counties and has raised over $1.5B
- Initiated and led a complete redesign of iOS app, unifying and simplifying 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
- Gained insight into the business challenges of rapidly scaling as headcount, ridership doubled to over 1M 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
- Drove development of 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*
- Founded a gamified platform to analyze workouts complete with AI/ML, intelligent feedback, leaderboards
- Leading 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*
- 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*
- 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*
- Co-founder, CTO, leader of marketing and design teams in eight-member company selling graduation bundles
- 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)
- Established a successful and profitable business, surpassing sales target and finishing at top of class

Jan '18 – Jan '18 **Weightlifting App ML** – *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*
- Founded a platform for organizing, tracking, and reminding users of upcoming homework assignments
- Sold to Haystack AI in 2019 after negotiating terms for acquisition
- 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; Minor, Entrepreneurship, 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; cumulative GPA: 3.9

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

- 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 per year; topics 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; most recently a three-week solo backpacking trip through Europe
- Lived in Beijing, China from 2008 to 2012; returned in 2016 for internship with Chinese startup Rokid, Inc. in Hang Zhou
- Natural bodybuilding and physique competitor – placed 2nd and 3rd respectively in 2022 INBF Battle of the Bay
- 5-time Tough Mudder; 2-time century biker; 4-year high school basketball player; brother at Delta Tau Delta – Gamma Mu chapter