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EXPERIENCE

- Sep '21 **Apple** – AR/VR Software Engineer **Sunnyvale, CA**
- Team: TDG – AR/VR Group – Frameworks Team
- Jan '21 – Apr '21 **Proof Diagnostics** – Engineering Consultant (part-time) **Seattle, WA**
- Worked with design and engineering teams on developing an initial website in preparation for public launch
 - Implemented aspects of low-level BLE object transfer protocols between firmware and mobile application
 - Identified and fixed critical, longstanding flaws in firmware implementation
 - Provided miscellaneous engineering support and guidance
- Jul '20 – Sep '20 **Apple** – 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 my project's findings to organization executives and team leads with positive reception
- Jan '20 – Mar '20 **Facebook** – Software Engineering Intern **Menlo Park, CA**
- Designed 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
 - Collaborated with multiple teams to design these new features to fit well with existing infrastructures
 - Implemented these additions on both the backend (Hack, GraphQL) and frontend (JavaScript) first using a mock API and switching to the real API upon completion. Also created extensive unit & integration tests
 - Worked with the QA team on performing a notification audit to ensure intended product behavior
- Sep '19 – Dec '19 **Xevo** – SDE I - AI UX (part-time) **Bellevue, WA**
Jun '19 – Sep '19 – SDE Intern
- 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
- Jun '18 – Sep '18 **Lime** – Software Engineering Intern **San Francisco, CA**
- Led a complete redesign of the iOS app UI, 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 interning at Lime, iOS ridership nearly doubled to over one million MAU

EXPERIENCE

- Oct '17 – Mar '18 **Suplari** – Engineering Intern (part-time) **Seattle, WA**
- Developed a card-based supplier database normalization iOS 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

PROJECTS

- Aug '17 – Present **Weightlifting App** – iOS App Store
- Tracks and analyzes users' workouts using Amazon Web Services, Core Data, and more
 - Developed a Node.js backend running on AWS EC2 for app leaderboards, feedback, 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
 - 20k+ installs, 2k+ MAU, 4.7 star rated, top-10 weightlifting app
- Aug '16 – Jan '19 **Homework App** – iOS App Store
- Organizes, keeps track of, and reminds users of upcoming homework assignments
 - Acquired by Haystack AI on January 23rd, 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**
- Graduate at Paul Allen School of Computer Science & Foster School of Entrepreneurship Minor.
Courses include: CSE 331/2/3, CSE 401, CSE 440/6, CSE 452, CSE 473, ENTRE 459, ENTRE 472/3.
Graduated with *magna cum laude* honors – top 3.5% of class. Major GPA: 3.84; Cumulative GPA: 3.87
- 2013 – 2017 **Thomas Jefferson High School for Science & Technology** **Alexandria, VA**
- Nationally ranked magnet school. Developed semi-autonomous go-kart in senior Automation & Robotics lab.
Courses include: AP CS (5), Artificial Intelligence I & II, Analog & Digital Electronics; ACT: 33, GPA: 4.3

SKILLS

- Programming capability in Objective C, Swift, JavaScript/TypeScript, Python, Java, C/C++, PHP/Hack, SQL, HTML/CSS
- Proficient with GitHub/GitLab/Bitbucket, Jira, Slack, Adobe CC (Photoshop, Illustrator), Google / Microsoft Office Suites
- Experience with AWS (S3, DynamoDB, Lambda, IAM etc.), GCP (Compute, Datastore, Endpoints etc.), Snowflake, Terraform
- Built two desktop computers – one Windows, one Hackintosh; added RAM and two SSDs in RAID 0 to old MacBook Pro

PERSONAL

- NBA, MLB, and NFL follower; Washington DC and Boston sports fan
- Completed Culpepper Cycling Century in 2016, Knott's Island Cycling Century in 2017
- Five-time Tough Mudder finisher: 10+ miles & 20+ obstacles built to test mental grit, teamwork & total physical fitness
- Four-year high school basketball player; senior year starting power forward, led team to regional tournament
- Completed ten-day Outward Bound rafting & mountaineering course building communication and leadership skills
- Brother at Delta Tau Delta – Gamma Mu chapter
- Avid weightlifter and nutritionist