Jonathan J. Mak

Education

Stanford University

B.S., M.S. in Electrical Engineering **Expected June 2020**

Concentration in information science and hardware/software with primary focus in healthcare technologies, machine learning, and signal processing.

Skills / Keywords

Languages: Python, C/C++, Java, SQL, MATLAB
Coursework/Interests: Deep Learning/Generative Models, Natural Language Understanding, Computer Vision, Databases, Signal Processing, Embedded Systems, Mobile Development, Public Health

Professional Experience

Software Engineering Intern

Apple — Sensing and Connectivity **June 2019 – Present**

- Working on the **CoreMotion Health** team to create new data frameworks for future deployment in devices using **C++/Objective C++**.
- Integrating sensor fusion with HR/GPS/Accel/Gyro and context detection to bring improvements across watchOS and iOS to provide customers with better personalized predictions for health and fitness.

Technical Product Manager

Do Not Pay **June 2017 – June 2019**

- Created personalized chatbots for the AI law-based start-up featured in **CNN, BBC, TechCrunch** for a total funding of $5.7M.
- Streamlined user experience by remodeling product flow through integrating a chat interface, to increase success rate over **60%**.
- Maintained database and tracked key performance metrics in **MongoDB** after helping expand product to 1000+ different law areas.

Data Scientist

Vasctrac **April 2018 – present**

- Performing feature exploration on novel and unprocessed data sets from **CoreMotion** and **HealthKit** to propose novel hypotheses on significant features affecting Peripheral Artery Disease (PAD) patients including surgical response curve predictions.
- Creating data visualization models to map predictions and created metrics to gauge confidence in new features discovered using **Pandas**.

Software Development Intern

Amazon — Amazon Photos **June 2018 – September 2018**

- Designed and implemented a new multi-threaded rich push notification system for Amazon Photos dealing with **Android, Fire Tablets, FireTV**, and **Alexa** in **Java**, creating new APIs tying together multiple backend services for client facing interaction.
- Wrote metric tests and created a dashboard for data visualization in order to measure impact of more qualitative informative notifications from **DynamoDB**.

Projects / Activities

Learned Stock Prediction using News Headlines

Project Lead **June 2019**

- Utilized reinforcement learning and tensor networks to create a trading model parsed with data from news headlines using Open IE on a dataset from **Reuters** to achieve a gain of 10% YoY.

Leveraging a Drug Outcome Network for Side Effect Prediction

Project Lead **September 2018**

- Utilized a bipartite graph and ran Node2Vec on an FAERS datanase combined with LSTMs train on drug features from DrugBank to achieve 70% accuracy.

GUCCI GAN

Full Stack Engineer **June 2018**

- Led a group of 3 in creating a U-Layer Generative Adversarial Network (GAN) Ensemble to generate a contextually classified inpainted images using the COCO Dataset using **Pytorch**.