SEAN WADE

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WORK EXPERIENCE

Apple Dec 2019 / Current

Senior Machine Learning Engineer / Data Scientist Cupertino, CA

- Architected data schema and privacy preserving data collection framework for launch of multiple health related programs (Lumihealth, Heartline, Attain)
- Led cross-functional team in developing, shipping and maintaining core on-device ML algorithms to 200k+ users:
  - Personalized workout challenge recommender system using a multi objective loss function and Thompson sampling to continuously learn user behavior
  - Unsupervised walk detection algorithm from steps data
  - Contextual notifications engine using routine identification (commute to work, typical workout time, etc)
  - Meal logging tool with food image classification
- Evaluated performance of ML models and features by defining metrics, causal inference analysis on user behavior and designing effective experiments
- Built data pipelines to process petabytes of complex data (Apple Watch sensors, app logs, medical claims)
- Created dashboards and alerting to monitor KPIs and releases

Microsoft Jun 2019 / Sep 2019

AI Platform Engineer Intern Seattle, WA

- Created tools to improve deploying, evaluating, and retraining ML models on Azure
- Extended Azure SDK to incorporate open source projects like MLflow into Azure pipelines

Disney Jan 2018 / May 2018

Machine Learning Resident Orlando, FL

- Developed recommender system for rides/attractions in Disney World Park app. Used multi objective optimization to balance recommendations with data we have on the user, location in the park, line length, etc
- Created realtime pipelines and dashboards to monitor and visualize model performance

Loveland Innovations Mar 2017 / Aug 2018

Computer Vision Engineer Alpine, UT

- Used drone imaging and photogametry to construct 3D models of buildings
- Built production algorithms to segment facets of the roof from 3D models and use convolutional neural networks to identify and classify damage

RESEARCH

Master of Science, Computer Science Dec 2017

Bachelor of Science, Applied Mathematics Brigham Young University

Researched synthetic cancer cell image generation using conditional adversarial neural networks and wrote a python library to distribute it. Created novel methods for representing medical claims history with vector embeddings and training neural networks by incrementally freezing layers

Publications

- MediAug, Toolkit for Semi Supervised Synthetic Cancer Cell Image Generation
- Forward Thinking: Building and Training Neural Networks One Layer at a Time
- Code2Vec: Embedding and Clustering Medical Diagnosis Data

SKILLS

- Python, Swift, SQL, C++
- Distributed systems (Spark, Hadoop, etc)
- Deep learning (Tensorflow, PyTorch)
- Experiment design and evaluation
- Bayesian modeling
- CV algorithms and tools (OpenCV, PCL)
- Privacy preserving ML
- Numerical methods and mathematical modeling