SEAN WADE

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WORK EXPERIENCE

Apple   Dec 2019 / Current
Senior Machine Learning Engineer / Data Scientist   Cupertino, CA

- Led cross-functional team in developing, shipping and maintaining core on-device ML algorithms to users:
  - Meal logging tool with food image classification and LLM nutrition feedback
  - Personalized workout recommender system using a multi objective loss function and online learning
  - Unsupervised walk detection algorithm from steps data
  - Contextual notifications engine using routine identification (commute to work, typical workout time, etc)
- Evaluated performance of ML models with focus on safety, robustness and privacy and efficacy communicated tradeoffs to partners
- Architected data schema and privacy preserving data collection framework for launch of multiple health related programs and research studies (Lumihealth, Heartline, Attain)
- Created application for labeling health data to create datasets and provide human feedback for models
- Built data pipelines to process high volumes of medical claims data and health sensor data
- Designed research studies and experiments to study impact of digital interventions and models on hypertension, diabetes, asthma, MCI and atrial fibrillation

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 convolutional neural network to segment facets of the roof from 3D models and identify 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 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++
- LLM post training, fine tuning and RLHF
- Deep learning (PyTorch, JAX)
- Distributed systems (Spark, Hadoop, etc)

- Medical claims and sensor data
- CV algorithms and tools (OpenCV, PCL)
- Privacy preserving ML
- Numerical methods and mathematical modeling