+1 (559) 779-2066
jamiemcquire23@gmail.com
Sacramento, California
LinkedIn: Jamie McQuire
jamiemcquire23.github.io

Jamie McQuire

Experience

Expedia Group — London, United Kingdom
Machine Learning Scientist II — October 2023 - October 2024

- Developed scalable machine learning algorithms for pricing optimization, significantly improving business KPIs in predictive analytics and customer intelligence.
- Led the development of an XGBoost pricing algorithm that increased property profits by 5.4%, conversion by 7.8%, and nights booked by 7.6%.
- Collaborated with cross-functional teams to integrate machine learning models into production, enhancing internal and customer-facing systems with data-driven solutions.

Newcastle University — Newcastle-upon-Tyne, United Kingdom
PhD Researcher — September 2019 - October 2023

- Graduate researcher that focused on the development of transformers for wearable sensor analysis with knowledge distillation and federated learning.
- Developed data processing pipelines for wearable sensor analysis and federated learning system architectures.
- First author publications on 3 papers at international conferences.
- Supervised final year projects for Masters students who explored the application of machine learning to wearable sensor analysis.

Expedia Group — London, United Kingdom
Machine Learning Scientist Internship — July 2022 - September 2022

- Developed recommendation systems for high-value property suggestions tailored to travel agencies in the Chinese market.
- Created a workflow to update key stakeholders with personalized property recommendations with data visualizations using predictive modeling.

4GKi — Newcastle-upon-Tyne, United Kingdom
Data Scientist Internship — September 2020 - November 2020

- Contributed to the development of a smart kitchen prototype for multi-generational households.
- Developed a Raspberry Pi hub using Home Assistant OS to manage Python workflows with commercial IoT devices.

Education

Newcastle University — Newcastle-upon-Tyne, United Kingdom
Ph.D. in Computer Science — May 2020 - December 2024

- Thesis: **Transformers for Parkinson's Disease Gait Analysis in both Centralized and Federated Machine Learning Environments**.
- Successfully defended June 2024.

Durham University — Durham, United Kingdom
M.Eng in General Engineering — October 2015 - July 2019

- GPA: 4.0
- Specialization: Electronic Engineering.
- Thesis: **Detecting the Pilot Spoofing Attack in Massive MIMO with Machine Learning**.

Skills

Programming Languages: Python, SQL, C++, C, Scala, R, Matlab.

Machine Learning/Data Analysis: PyTorch, TensorFlow, Scikit-learn, XGBoost, ONNX, Apache Spark, PySpark.

DevOps/MLOps: Docker, Kubernetes, Airflow, CI/CD Pipelines, Git.

Data Visualization: Microsoft Power BI, Tableau, Seaborn, Matplotlib.

Cloud Computing: Microsoft Azure, AWS, Databricks.

AI/ML Systems: Pricing Optimization, Customer Intelligence, Recommendation Systems, Federated Learning, Transformers, Time Series Analysis, Computer Vision.

Project Management: Jira, Confluence, Miro, Microsoft Office 365.

Languages: English (Native).

Publications

1. **McQuire, J.**, Watson, P., Wright, N., Hiden, H. and Catt, M., 2021, December. Uneven and Irregular Surface Condition Prediction from Human Walking Data using both Centralized and Decentralized Machine Learning Approaches. In 2021 IEEE International Conference on Bioinformatics and Biomedicine (BIBM) (pp. 1449-1452). IEEE. (Focus on **predictive analytics** and **healthcare applications**.)
2. **McQuire, J.**, Watson, P., Wright, N., Hiden, H. and Catt, M., 2023, July. A Data Efficient Vision Transformer for Robust Human Activity Recognition from the Spectrograms of Wearable Sensor Data. In 2023 IEEE Statistical Signal Processing Workshop (SSP) (pp. 364-368). IEEE. (Emphasizes **data science** solutions for sensor data.)
3. **ACCEPTED: McQuire, J.**, Watson, P., Wright, N., Hiden, H. and Catt, M., 2024, December. Data Efficient Transformers for Wearable Sensor Analysis in Centralized and Federated Environments. In 2024 IEEE International Conference on Big Data (BigData). IEEE. (Explores **Federated Learning** for sensor data.)