

James McCarron

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WORK EXPERIENCE

Software Developer

May 2021 – Aug 2022

Intel Corporation

- Led development for a Python-based GUI software, enhancing data processing of SerDes chips
- Optimized performance of SerDes IP for external products using Time Series analysis
- Improved IP validation with XML and JSON scripting and APIs on various oscilloscopes/probes

ENGINEERING PROJECTS

Large Language Model Text Summarization

Python, BERT, AWS, Docker

- Developed a text summarization NLP system, combining BERT for feature extraction with Pegasus modelling for improved overall performance
- Implemented CI/CD pipelines for the model on AWS, utilizing Docker for efficient employment across environments
- Executed the project using agile methodologies, focusing on scalable solutions and employing the latest AI advancements

ETL Azure Pipeline for Olympic Data Engineering

Azure Data Factory, Azure Databricks, Spark, Azure Synapse Analytics, Power BI

- Designed and deployed an ETL pipeline for Tokyo Olympic data using Azure Data Factory, enabling strategic data extraction and loading
- Managed data transformation and enrichment with Spark on Azure Databricks, optimizing data storage on an Azure Data Lake
- Developed interactive dashboards in Power BI, delivering actionable insights via Azure Synapse

EXTRACURRICULAR ACTIVITIES

Executive Coordinator

May 2021 – Apr 2022

Canadian Undergraduate Conference on Artificial Intelligence (CUCAI)

- Orchestrated a highly acclaimed AI conference with speakers from Microsoft, Google, and NASA
- Curated venues and speakers to help create the largest undergraduate AI conference in Canada
- Secured an optimal \$150,000 venue through negotiation and understanding attendees' needs

Machine Learning Developer

Sept 2019 – Apr 2021

QMIND, Queen's AI Design Team

- Developed an end-to-end machine learning solution for analyzing rental prices in Toronto, leveraging efficient web scraping, a self-built large dataset, and feature engineering techniques
- Utilized City of Toronto open datasets to gain valuable insights into the geospatial distribution of rental prices using XGBoost, LightGBM, and Random Forest algorithms with scikit-learn
- Employed robust data preprocessing and hyperparameter tuning to optimize model performance for accurate price predictions

EDUCATION

Bachelor of Applied Science – Mathematics & Engineering

Queen's University

SKILLS

Programming Languages Technologies

Python (Scikit-Learn, pandas) | SQL | JavaScript
Azure | Docker | Google Cloud | Django (REST)