Samuel Peterson M.Sc

DATA SCIENTIST

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GitHub: github.com/Brum99 | Portfolio: www.sam-portfolio.tech

Summary

Data Scientist with a Master's in Data Science and hands-on experience delivering AI solutions in surgical robotics and evaluating LLM systems. Proven ability to build robust pipelines, optimise model performance, and extract actionable insights from complex data. Selected to contribute to PhD/Master's level model evaluation teams, bringing technical excellence, analytical rigour, and a deep understanding of scalable ML architectures.

Experience

Outlier AI / LLM Specialist – Programming Evaluation **Oct 2024 – Present**

- Conducted systematic evaluation and monitoring of large language model performance, following strict operational procedures and documentation protocols.
- Analysed 200+ complex system outputs monthly, assessing model knowledge in areas such as machine learning, programming, and technical skills such as debugging.
- Selected for a specialised expert team of PhD and Master's level contributors, demonstrating ability to work in high-precision technical environments.

IMRA Surgical Robotics / Machine Learning Research Assistant **Jul 2023 – Nov 2023**

- Implemented state of the art 3D Convolutional Neural Network models for surgical skill level classification using surgical footage from da Vinci robotic video feeds.
- Developed end-to-end data acquisition/augmentation and processing pipeline using Python and GPU-accelerated training in Google Colab, ensuring continuous data quality and system reliability.
- Collaborated with surgical experts and engineers in a multidisciplinary team environment, facilitating communication between technical and domain specialists.
- Built robust preprocessing and modelling workflows, creating documented procedures to transform raw surgical recordings into a cohesive machine learning pipeline.

Projects / Website - www.sam-portfolio.tech

- **MRI Brain Tumor Classification**: Built supervised ML model for medical imaging data classification, achieving over 94% recall through rigorous feature engineering and model optimisation. Implemented comprehensive data validation and quality assurance processes. Technologies: Scikit-learn, TensorFlow, Pandas, NumPy, Jupyter

Education

RMIT University / Master of Data Science **2024**

Major: Data Science | Relevant: Machine Learning, Big Data (Spark, Hadoop), NLP, Statistical Modelling

RMIT University / Graduate Certificate of Data Science **2021**

Focus: Foundational programming, applied statistics, and data analytics

RMIT University /Bachelor of Applied Science (Biological Science) **2020**

Major: Mathematics | Relevant: Applied Computing, Data Analysis

Certifications & Professional Development

- Microsoft Azure AI-102: Azure AI Engineer Associate (Expected Completion: July 2025)
- Strong commitment to continuous learning in scientific computing and data analysis methodologies

Volunteering

Peer Mentor / Advanced Programming **Jul 2023 - Nov 2023**

- Provided technical mentoring to students, demonstrating ability to communicate complex technical concepts to diverse audiences.
- Supported development of programming competencies and object-oriented programming techniques in Java.

Skills

Machine Learning & AI:

Python, TensorFlow, Scikit-learn, Deep Learning, 3D CNNs, NLP, Statistical Modelling, Model Optimisation

Data Analysis & Engineering:

Data Pipelines, ETL, Large-scale Data Processing, Time Series Analysis, Feature Engineering, Data Validation

Mathematical & Statistical Analysis:

Advanced Statistics, Numerical Analysis, Model Validation, Exploratory Data Analysis

Cloud & Big Data Technologies:

AWS, Azure (AI-102 in progress), Apache Spark, Hadoop, PySpark, SQL

Software Development:

Data Structures, Algorithms, Version Control (Git), Performance Optimisation

Tools & Frameworks:

Jupyter, Pandas, NumPy, Matplotlib, Seaborn, VS Code