Tony Wong

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Winnipeg, MB

Summary

With hands-on experience in applied machine learning, statistical analysis, and data automation in research and business environments. Skilled in Python, SQL, scikit-learn, and data pipeline design. Demonstrated success in developing predictive models, streamlining data workflows, and generating actionable insights. Strong communication and collaboration skills in both cross-functional academic teams and enterprise settings.

Projects

Soil Sensor Network with Raspberry Pi and Pico W

- Designed a distributed sensor network to collect soil data using RP2040 microcontrollers and Raspberry Pi as a central server.
- Implemented data transfer and logging systems, simulating a business systems environment with edge-device integration.

Overcooked AI - Multi-Agent Reinforcement Learning

- Built and tested DQN-based agents in a simulated cooperative cooking environment.
- Documented metrics and analyzed system performance using Python and Jupyter.

Work Experience

Technician   Jul 2023 – Present

The University of Winnipeg - Manitoba, Canada

- Developed and maintained research data pipelines for automated greenhouse and agricultural IoT systems.
- Automated manual data collection processes for research datasets using Python, resulting in a 50% improvement in data reliability and reduced processing time.
- Presented technical findings to both technical and non-technical audiences in collaborative academic settings.

Senior Research Assistant   Jan 2023 – Jul 2023

The University of Winnipeg - Manitoba, Canada

- Enhanced imaging systems by designing and implementing upgrades, incorporating REST APIs, and improving data collection processes.
- Developed a Python-based robotic system with a user-friendly graphical interface, optimizing data workflows and enabling more efficient research operations.
- Conducted statistical analysis on research data to generate meaningful insights for publication

Business Technology Analyst   Jan 2013 – Aug 2021

Hang Seng Bank Limited - Hong Kong

- Analyzed large sales datasets using SQL and developed Tableau dashboards to support data-driven decision-making.
- Built and optimized SQL-based data pipelines for extraction, transformation, and loading (ETL) processes, reducing reporting errors by 25% and ensuring data accuracy.
- Designed automated reporting solutions, reducing manual data handling by 40% and improving business intelligence insights.
- Collaborated on the implementation of a Knowledge Management System (KMS) using an Agile framework, ensuring seamless integration and adoption by internal teams.

Education

Master of Science in Computer Science (In Progress)

Georgia Institute of Technology – Georgia, USA   Jan 2025 – Present

Diploma, Data Science and Machine Learning   Aug 2021 – Apr 2023

Red River College Polytechnic - Winnipeg, MB
- Built interactive dashboards using Power BI to generate business insights.
- Developed and deployed machine learning models using Python libraries such as Pandas, NumPy, Scikit-learn, and Matplotlib.
- Awarded the RRC Students' Association International Student Scholarship for academic excellence.

Bachelor of Mathematical & Computer Sciences   Feb 2005 – Dec 2008
The University of Adelaide - Adelaide, Australia

Certifications

- **Microsoft Azure AI Fundamentals**, May 2024
- **Google Advanced Data Analytics** *(Google/Coursera)*, Oct 2023
- **Google Data Analytics** *(Google/Coursera)*, Oct 2023
- **Machine Learning with Python** *(FreeCodeCamp)*, Apr 2023
- **Data Analysis with Python** *(FreeCodeCamp)*, Jun 2022

Skills

- Python, C, SQL, Excel, Tableau, Git, Power BI (familiar), Data Visualization, Microcontrollers (RP2040, Raspberry Pi), Jupyter Notebooks, Machine Learning (scikit-learn, PyTorch), Linux, REST APIs, Image Processing (OpenCV), Reinforcement Learning, Agile (Scrum)