Bradley Pfeil

Adelaide, SA ✧ +61 421 080 007 ✧ Brad180795@gmail.com
github.com/Brad-Pfeil ✧ linkedin.com/in/bradley-pfeil

Education

The University of Adelaide *2022 – 2024*
Bachelor of Computer Science (Advanced)

Work Experience

Streamline (Aurizn / Lunio) – Data Scientist *2024 – Current*

Developed and optimised a dynamic pricing model for tourism companies, identified and resolved scaling bottlenecks improving inference time by 80% and enhancing revenue forecast accuracy. Given the responsibility of AWS MLOps and support for the company. Additionally, diagnosed inefficienceis in cloud infrastructure and implemented a cost monitoring/reporting framework that reduced monthly AWS spend by $2,000+. Founded and lead a journal review club, fostering team growth through discussion of cutting-edge AI/ML research.

Aurizn – Intern Data Scientist *2022 – 2024*

Developed LLM-based recommender systems with SHAP-driven explainability to surface model decision logic for non-technical stakeholders. Conducted analysis of data ingestion and retraining pipelines for Streamline project, implementing an automated retraining workflow that ensured consistent model accuracy and reduced manual maintenance.

Projects

Adaptive Database Optimizer *2025*

Developed an adaptive system that observes SQL query workloads and incrementally optimises physical data layouts (partitioning and sorting) for Parquet-backed datasets. Implemented workload logging, layout proposal, dataset rewriting, and performance evaluation in a closed feedback loop, allowing the system to learn which layouts perform best under changing access patterns. Emphasised practical evaluation using DuckDB and automated benchmarking.

QueryGPT: NL-to-SQL Pipeline *2025*

Built a modular, multi-agent NL-to-SQL pipeline in Python that decomposes user queries into intent detection, table selection, column pruning, and SQL generation. Focused on reducing token usage and failure modes by enforcing structured intermediate outputs. Integrated 'llama-index', 'pydantic-ai', and a Neo4j vector store to support retrieval-augmented generation and improve maintainability as schemas evolve.

Markov Decision Process Framework *2025*

Implemented a flexible Python framework for defining and solving Markov Decision Processes with explicit time-dependent state representations. Designed utilities for estimating stochastic transitions from data and computing optimal policies for sequential decision problems, with a focus on dynamic pricing and capacity-constrained revenue optimisation.

Languages & tools

Proficient: Python, SQL, PySpark, PyTorch, AWS, IAC, Git   **Experienced:** R, Java, C++

Additional Experience

- Scrum Master Certificate 2025

- Industry liaison for the University of Adelaide Competitive Programming Club 2024.