Andrew Boyley

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Education

University of the Witwatersrand – MSc in Computer Science	Expected 2025
University of the Witwatersrand – BSc (Hons) in Computer Science (w/ distinction)	2022
University of the Witwatersrand – BSc in Computer Science (w/ distinction)	2021

Projects

Board Game AI
- Created an AI for the board game Cryptid using **Reinforcement Learning**, achieving high accuracy in gameplay
- Trained a PPO agent in a **Gymnasium** multi-agent environment, with a 90% win rate compared to the baseline

Automated Cryptocurrency Trader   github.com/andrewboyley/crypto-trader
- Developed a cryptocurrency trading bot using **Python** and Binance API, achieving a 65% win rate in backtesting

Reward Based Data Labelling App   github.com/andrewboyley/reward-based-data-labelling
- Implemented a robust dataset labelling system using **MongoDB** and VueJS, with a user incentive mechanism for active participation based on labelled items.

Experience

Data Scientist, The Foschini Group   2025 – Present
- Optimized product recommendations by **implementing a recommender system** using Python, SAS and SQL
- **Analyzed client behaviour** to allocate appropriate credit using SAS, Python and SQL

Academic Tutor, University of the Witwatersrand   2021 – 2024
- Assessed student exams and gave thorough feedback to improve learning objectives
- Developed a parallel **tournament simulator** for AI student submissions, running 600+ games in under 2 hours
- Supervised exams and facilitated tutorials, improving student performance through on-the-spot assistance

Website Developer, Decimal Agency   2019 – 2020
- Managed and **optimized** the Krispy Kreme website using WordPress, ensuring a seamless user experience
- Developed **dynamic websites** with vibrant animations and responsive designs

Awards & Leadership

The TFG Data Science and Leadership Fellowship, The Foschini Group   2023
- Inaugural fellowship granted to individuals with a natural aptitude for leadership and a strong **passion for data science**

Facebook Mentorship Program Participant, Facebook   2020
- Enhanced technical and behavioural interview skills by consistently applying the **STAR method** during practice sessions
- Built strong mentorship relationships with Facebook employees, resulting in 2 direct referrals

Wits Yacht Club Vice Chairperson, University of the Witwatersrand   2024
- Managed and **maintained** the Wits fleet while competing competitively.

Chairperson of Management, Johannesburg Junior Council   2017
- Coordinated correspondence with members and affiliates, maintained council calendar, tracked community service hours, and **documented** minutes during meetings for transparency and accuracy.

Assistant Troop Scouter, 1st Kibler Park Sea Scouts   2021 - 2023
- Designed and led programs for children, enhancing engagement and **skill development**
- Completed training courses in sailing, rowing, and canoeing, applying skills to enhance program quality

Skills

Programming Languages: Python, SQL, SAS, Java
Frameworks: Pytorch, OpenAI Gymnasium, MPI, VueJS
Data Science: Vision Transformers, Reinforcement Learning, Bayesian Models, Big data
Languages: English