

# Andrew Boyley

Full Stack Data Scientist

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## Education

University of the Witwatersrand – MSc in Computer Science	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

- Developed a cryptocurrency trading bot using **Python** and Binance API, achieving a 65% win rate in backtesting [github.com/andrewboyley/crypto-trader](https://github.com/andrewboyley/crypto-trader)

### Reward Based Data Labelling App

- Implemented a robust dataset labelling system using **MongoDB** and VueJS, with a user incentive mechanism for active participation based on labelled items. [github.com/andrewboyley/reward-based-data-labelling](https://github.com/andrewboyley/reward-based-data-labelling)

## 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
- Refactored & automated** a 5 year credit portfolio model pipeline, **saving >10 hours** per run

### 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, C++, SAS, Java

**Frameworks:** Pytorch, SKLearn, OpenAI Gymnasium, MPI, VueJS

**Data Science:** PySpark, SQL, Vision Transformers, Reinforcement Learning, Bayesian Models, Big data