

ZEESHAAN EBRAHIM

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PROFILE

Final-year Computer Science Honours student at Wits with a dual B.Sc. in Computer Science and Computer Engineering from UCT. Builds and ships software end to end across .NET, Python and JavaScript stacks, from relational schema design and REST APIs through to testing, deployment and code review. Looking to write production code on real client systems.

ENGINEERING PROJECTS

RoboChessGymnasium – Honours Research, Wits

2026

Python, MuJoCo, Stable-Baselines3, PyTorch

Supervisors: Dr S. James, Prof. B. Rosman

- Delivered a Gymnasium-compatible reinforcement learning environment supporting a five-task manipulation suite on a simulated UR5e arm, by designing modular reward and observation interfaces so new tasks plug in without touching the core training loop.
- Reduced experiment setup from manual per-run configuration to a single command across 200+ training runs in a $2 \times 2 \times 2$ factorial design at five seeds each, by building a config-driven training harness with automated checkpointing, logging and cluster job submission.
- Made every reported result reproducible and defensible under supervisor review by implementing an evaluation pipeline with bootstrap confidence intervals, permutation testing and Holm–Bonferroni correction, backed by unit tests over the statistical routines.

Mo Pro Sound – E-commerce Storefront and Admin Platform

2025–2026

Next.js, TypeScript, Supabase (PostgreSQL), REST

Freelance client project

- Shipped a live storefront and admin dashboard for a paying client, by owning the full stack solo: relational schema design, API contracts, authentication and role-based access, deployed on Vercel against a Supabase-managed PostgreSQL database.
- Hardened authentication and access control before launch by running a structured review across XSS, CSRF, CORS and OAuth flows, then tightening row-level security policies and server-side validation.

Interactive Byte Pair Encoding Tokenizer – Personal Project

2024

Python, Django REST Framework, React

- Released a full-stack tool that makes subword tokenisation steppable and inspectable, by defining the REST API contract from scratch, implementing the encoder in Python and iterating the React interface until the merge process was legible to a first-time user.

Hotel Booking Management System – Team Project, UCT

2023

C#/NET, Microsoft SQL Server

- Delivered a transactional booking platform with a four-person team, by owning the normalised relational schema and booking business logic in C#, and writing the test cases that caught double-booking edge cases before demo.

EXPERIENCE AND LEADERSHIP

Mentor, Absa Fellowship Leadership Programme

Feb 2022 – Present

Absa Group

Johannesburg

- Selected competitively into a four-year fellowship, then progressed into a mentorship role guiding a group of junior fellows through structured knowledge-sharing sessions on technical and career topics.

Project Manager, Software Development Teams

Aug – Oct 2024

University of Cape Town

Cape Town

- Delivered every milestone on schedule across concurrent projects and multiple engineering teams, by running Agile sprints, reviewing pull requests against agreed coding standards and unblocking developers on dependencies.

EDUCATION

B.Sc. Honours, Computer Science (NQF 8)

2026 (completing)

University of the Witwatersrand

Johannesburg

- Coursework: Machine Learning, Artificial Intelligence, Reinforcement Learning, Cybersecurity, Research Methods.

B.Sc., Computer Science and Computer Engineering (NQF 7)

2022 – 2025

University of Cape Town

Cape Town

- Dual-discipline degree spanning software and hardware, covering object-oriented design, algorithms and data structures, databases, software architecture and embedded systems; strongest results in build-heavy modules.

TECHNICAL SKILLS

Languages: Python, Java, C#, C++, JavaScript/TypeScript, SQL, HTML/CSS • **Frameworks:** .NET, Django REST Framework, React, Next.js, Node/Express, PyTorch, TensorFlow, Stable-Baselines3

Databases: Microsoft SQL Server, PostgreSQL, Supabase • **Practice:** Object-oriented design and design patterns, SOLID, REST API and schema design, unit testing (pytest, JUnit), Git and code review, Agile/Scrum, Linux/WSL, experimental design and performance benchmarking