

EDWARD RYCROFT

— SOFTWARE · ENGINEERING · DATA SCIENCE · GRAPHIC DESIGN · FINANCE —

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stepthrough.dev_

SKILLS SUMMARY

Python

Reflex

Pandas

Pyspark

MATLAB

Google Cloud

Databricks

Git

Docker

SQL

Supabase

HTML

CSS

Linux

VS Code

LLMs

PROFESSIONAL EXPERIENCE

Data Scientist

2026/07 - Present

Nedbank

Software & Data Engineering

2023/10 - 2026/06

The Content Engine

Developed a fully integrated internal and client-facing platform for the lifecycle of content from ideation to production to publishing on social media. The chosen tech stack was Reflex as a full-stack framework (compiles frontend to React and backend to FastAPI) and Supabase for the database, storage, and authentication. For analytics, data pipelines were created in Python and deployed on Google Cloud using Cloud Scheduler, Pub/Sub Topics, Secret Manager, Cloud Run, Cloud Storage, Cloud SQL, and BigQuery, as well as Databricks with various notebooks and workflows integrating with Delta Tables using Pyspark and Pandas. This revolved around the retrieval, processing, and transformation of raw data through a medallion architecture, such that relevant insights could be extracted with AI and visualized on dashboards with monitoring and reporting on Looker Studio. For business intelligence and operations, custom tools were also developed to integrate with the database using Retool.

Software & Data Engineering

2024/03 - 2025/12

Qurator.com

Supporting core objectives for the initial systems of an early-stage startup. The areas of involvement covered scalable and headless web scraping with connections to large-language models to ingest collections of information, where the developed data pipelines leveraged Google Cloud using Cloud Run, Cloud Storage, and BigQuery. These data pipelines were built in Python using various libraries, such as NumPy, Pandas, Playwright, HTTPX, and BeautifulSoup, and incorporated embedding-based retrieval using vector representations to enable efficient semantic search and ranking. A marketplace for sustainable companies was designed and built as a web application to explore the curated data, where Postgres on Supabase was used as the database and Reflex was used for the frontend and backend with websocket and stateful components.

Consultant - Software Engineering

2022/01 - 2023/09

Opti-Num Solutions

Worked across a wide variety of industries in advanced business analytics, financial engineering, digital engineering, smart mining and manufacturing, and research. This involved engaging with clients (such as MTN, African Bank, Johannesburg Stock Exchange, Anglo American, and Lodox) and applying class-leading tools with an emphasis on MATLAB and Python (including libraries for statistics, machine learning, visualizations, and image processing). The fields of exposure ranged between software engineering and data science. Various introductory courses from MathWorks were completed, including Fundamentals, Programming Techniques, Object-Oriented Programming, and Data Processing And Visualization.

External Examiner - Master of Engineering (Professional)

2023/10 - 2023/12

University of the Witwatersrand, Johannesburg

Operations Analyst

2021/09 - 2021/12

DiDi, International Business Group

Graduate Engineer

2020/03 - 2021/08

Defy Appliances, Arçelik A.Ş.

Vacation Work II Internship

2018/12 - 2019/01

CKR Consulting Engineers

Vacation Work I Internship

2017/12 - 2018/01

Red Metal Mining Project Engineers

EDUCATION QUALIFICATIONS

Master of Science in Engineering, Mechanical (Distinction)

2020 - 2021

University of the Witwatersrand, Johannesburg

Bachelor of Science in Engineering, Mechanical (Distinction)

2016 - 2019

University of the Witwatersrand, Johannesburg

Achieved a result of A (>75%) with inclusion on the Dean's List; qualification for the Wits University Entrance Scholarship and Wits University Undergraduate Merit Scholarship; recipient of the Bernard Price Prize (most distinguished in mechanical engineering), William John Walker Gold Medal (most outstanding in the school of mechanical, industrial, and aeronautical engineering), productONE Design Award, Weir Minerals Design Award, South African Institution of Mechanical Engineering Ralph Sharp Award, and various certificates of merit. Graduated with distinction.

HIGHLIGHTED PROJECTS

Postgraduate Master's Research Dissertation

2020 - 2021

Solar-Powered Evaporative Cooling For Produce

Nedbank N*ovation Forecasting Challenge

2026-04

1st Place (R120k Prize)

Undergraduate 4th Year Research Project

2019/Q4

Quadrotor Visual Servoing For Target Tracking

Undergraduate 4th Year Design Project

2019/Q3

Electrically Enhanced Personal Transportation

References and transcripts available upon request. Please visit <https://edwardrycroft.com/> for the latest updates. Version: 2026-07-01.