Neil Burger

Lead Software Developer & Data Scientist

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I enjoy making sense of complex, messy data and turning ideas into practical software people can use. Over nearly seven years, I've built data pipelines, APIs, ML integrations and applications that bring information together and simplify daily operations. I work closely with clients and technical teams from the initial idea through to production and ongoing support, combining hands on development with technical direction and responsibility for delivery.

Core skills

Programming languages
Python, TypeScript, SQL
JavaScript, shell scripting

Previously used languages
R, SAS, Java, C#

Applications and APIs
Node.js, Next.js, FastAPI
REST APIs, Dash, Plotly

Data and ML
pandas, NumPy, sklearn
Data preparation
Model training and evaluation
ML integration, OpenAI API

Databases and messaging
PostgreSQL, PostGIS
Supabase, Redis
RabbitMQ, MQTT

Infrastructure
Docker, Linux (Ubuntu)
AWS, S3, DigitalOcean
Vercel, Datadog

Development tools
GitHub, Codex, Claude Code

Data experience

Credit and risk data
Client and user records
Geospatial and satellite data
IoT and facilities data
Sales and inventory data

Collaboration

Coordinate developers to deliver projects. Collaborate with client, modelling and cloud teams across organisations and countries. Open to remote collaboration across compatible time zones.

Languages

Afrikaans: native
English: professional

Experience

MUNUS employment: January 2020 to present

MUNUS International

Senior Data Scientist & Software Developer
December 2024 to present

Help set technical direction, coordinate developers and lead client delivery. Combine architecture and development with responsibility for production performance, data quality and usability.

Locus24 Lead technical development of a GNSS intelligence platform. Built the backend infrastructure, APIs and dashboard, and implemented detection algorithms and automated reporting.

Dociflow Led a document workflow system from concept to production, taking primary responsibility for development and client engagement. Centralised vendor applications, reviews and sign off for ERIS Property Group.

BlueCrane Built and brought into production a mobile web app for student accommodation inspections. Combined photographic evidence with dashboards for maintenance planning, budgeting and responsibility assessments. Integrated with ERIS RiseStudent through SSO and APIs.

MyView Owned MyView development and built a full version 2 refresh. Continue developing and supporting it, collaborating with MyBuildings teams in Africa and Australia.

Momentum client engagement

Data Scientist in Advanced Analytics & AI
March 2025 to present

Contracted through MUNUS International
Embedded in the modelling and AI team, working with modelling colleagues and cloud developers on integration, production delivery and ongoing development.
Built pipelines to clean and structure complex client, credit and risk datasets for model development. Developed APIs enabling external services to submit data, run the team's ML models and retrieve predictions.
Built a custom reporting service, now in production, that consolidates client information, credit and risk data and model outputs into clear PDF reports for financial advisers.

Education

MSc Computer Science
Stellenbosch University
2020 to 2022
Cum laude
Completed part time while employed at MUNUS. Also served as a student assistant.
Developed a novel vessel trajectory prediction method combining linear regression, historical spatial information and custom weighting. Implemented and evaluated prediction methods using real maritime data.

BSc Honours
Computer Science
Stellenbosch University
2019 | Data Science stream
Developed an open source Python tool for visualising complex maritime data. Studied machine learning, data mining and statistical learning theory.

Bachelor of Science
NWU
2015 to 2018
Data Mining and Business Analytics. Golden Key member.

Publications

Extended linear regression model for vessel trajectory prediction with a priori AIS information
First author, peer reviewed journal article. Online 2022; journal issue 2024.
Read the journal article

Discrete Kalman Filter and Linear Regression Comparison for Vessel Coordinate Prediction
IEEE MDM, 2020.
Read the conference paper

Unsupervised Sequential Classification of MODIS Time Series
Coauthor, IEEE International Geoscience and Remote Sensing Symposium (IGARSS), 2020.
Read the IGARSS paper

MUNUS International continued

Data Scientist & Software Developer

January 2023 to December 2024

Took broader ownership of client projects, leading requirements gathering, technical decisions, development and support. Began BlueCrane's development before bringing it into production in my subsequent role.

MyView and MyBuildings Took ownership of customised dashboards for EMEA clients, combining IoT and facilities management data. In 2024, developed custom APIs for MyBuildings Australia supporting IoT sensor integration and automated reporting, coordinating with their team.

Fillup Built from scratch and supported sales and inventory analytics for multiple service stations, combining fuel and retail data with gross profit analysis, stock coverage estimates and stocktake reconciliation.

Snagportal Built from scratch and deployed an issue review portal for Waterfall City and its estates, integrating Oracle data, duplicate merging and routing to an external system.

TomorrowNow.org Built acquisition, preparation and delivery pipelines for an ML weather data gap filling project. Combined NOAA data, satellite imagery and client datasets, collaborating with client teams and a colleague on processing.

SAR data project Built an InSAR data pipeline with CSIR, supporting ground movement detection for the South African Department of Defence.

Junior Data Scientist & Software Engineer

January 2020 to December 2022

Joined as an employee with bursary support while completing my MSc. Built client systems and began taking responsibility for requirements and production delivery.

Drop Reporting Built a production system processing IoT water logger data into approximately 500 monthly consumption reports used for client billing. Continued supporting it in my subsequent role.

Project Track Built the complete Project Track system, including client integrations, queue consumption, backend processing and delivery of data back to clients. Developed detection algorithms and fleet heatmaps. Supported the system in production for a year.

Other delivery Deployed two custom MyView client dashboards and improved data flows. Built NAVIS maritime data processing tools and produced operational analysis for Harmony Gold.