

DANIEL SEBASTIAN MURRELL

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Professional Summary

Experienced software engineer with a strong background in full-stack development, infrastructure as code, machine learning, and generative AI applications. Adept at building scalable, secure, and innovative solutions for startups, research institutions, and corporate projects. Proficient in developing and maintaining cloud infrastructure, data-driven services, and advanced automation systems.

Professional Experience

2025 - Present **Flow Myna | Co-founder**

Co-founding a SaaS platform to help small businesses understand and improve their operations through simple process mining and an AI-powered co-pilot. Currently focused on product design, early development, and customer discovery.

2018 - 2025 **Sano Genetics | AI Staff Engineer**

Joined as the first engineer/employee after the 3 founders, evolving from a full-stack role to specializing in backend, infrastructure, and AI applications. Developed and maintained cloud infrastructure using Terraform on AWS. Built scalable backend systems supporting sensitive user data with a focus on privacy and security. Led the design and development of generative AI features.

After transitioning from infrastructure to AI-focused work at Sano, I have led several key initiatives:

RAG System for Internal Knowledge Access

Self-hosted a Retrieval-Augmented Generation (RAG) system (Onyx) to integrate company information sources, enabling an AI-powered bot to provide real-time assistance in the public Slack help channel. Or people to ask private questions to ask.sano.ai (limited to Sano employees)

API Collaboration with Spinach.io

Partnered with the Spinach.io team as the first external users of their API, enabling programmatic access to meeting transcripts. The goal was to develop an AI-powered meeting hub for employees to track discussions across the company. While the hub was ultimately discontinued due to low opt-in rates, this work laid the groundwork for future AI-driven knowledge aggregation.

AI-Generated Study Components

Developed AI-driven automation for study page generation, eliminating the need for manual template creation. Currently leading a more complex initiative to automate the generation of survey questions and routing logic. Unlike common thin wrapper solutions, I prefer direct interaction with the OpenAI API for full control and transparency where the extra layer doesn't offer a lot, leveraging Cursor for rapid development.

AI vs. Human Battle Platform for Genetic Counseling

Designed and built gc.sano.ai, a competitive platform where AI agents are pitted against real genetic counselors using an Elo-based ranking system. This initiative evaluates AI-assisted genetic counseling capabilities before deployment.

Tech Stack: Vue.js frontend, Hasura GraphQL for data resolution, FastAPI backend for agent iteration and data processing, WorkOS authentication with an intermediate auth service for flexibility, and PostgreSQL for data storage.

2015 - 2016 Duo Money | Co-founder

Developed a decentralized network crawler for OpenBazaar to collect shop listings. Built tools to connect users to support services and implemented NLP techniques for product categorization. Utilized Python, R, and MongoDB to develop data pipelines and microservices.

2014 Coinduit | Co-founder

Co-built a cryptocurrency brokerage platform that bought cryptocurrency and sold it to people in the UK where buying was difficult at the time. Implemented secure transaction processing and automation, achieving high customer satisfaction.

2008 - 2010 European Bioinformatics Institute (EMBL-EBI) | Software Engineer

Led a pilot project for the EU-funded ELIXIR initiative to create a cellular phenotype imaging database. Developed a Python/Django web application and MySQL database for collaborative data sharing.

2005 - 2007 Thoroughbred Technologies | Software Engineer

Created a physics engine in C++ for real-time dynamics simulation of heavy mining equipment. Developed and deployed industry-leading vehicle simulators still in use today.

2010 Magic Solver | Intern Developer

Built iOS applications using Objective-C, including a 3D rotatable cube interface controlled by touch gestures.

Education

- 2010 - 2015** **PhD in Cheminformatics | University of Cambridge, UK**
Dissertation: *Exploring ensemble methods for physicochemical property prediction of small molecules. Developed a novel ensemble based machine learning technique for error variance estimation.*
- 2007 - 2008** **MPhil in Computational Biology | University of Cambridge, UK**
Dissertation: *Discovering network properties in multi-electrode recordings of developing neuronal cultures.*
- 2001 - 2004** **BSc (Hons) in Computer Science & Applied Maths | University of KZN, South Africa**
Honours Dissertation: *Multiple object tracking and its uses in sport event detection.*
Awarded Accenture prize for top-performing student.

Skills

- **Programming Languages:** Python (Preferred), C++, R, JavaScript
- **Cloud & Infrastructure:** AWS (Preferred), Google Cloud, Terraform, CI/CD, Git
- **Machine Learning:** Ensemble methods, regression models, NLP, R caret package, Generative AI applications
- **Frameworks:** Vue.js, React, FastAPI (preferred), Flask
- **Databases:** MySQL, PostgreSQL (preferred), MongoDB
- **Other:** Data scraping, Unix/Linux environments, Git

Awards

- Commonwealth Scholarship & Cambridge Commonwealth Trust Scholarship.
- Accenture Award for Top Student in Computer Science Honours.
- NRF Scarce Skills Scholarship for BSc. Honours Computer Science.