Stephen John Donovan

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Professional Summary

Back-end engineer specialising in Go and Rust, with extensive experience in distributed systems and data engineering. Proven track record building HTTP services, storage-backed systems (PostgreSQL, MongoDB), and developer tooling. Open-source contributor and technical author.

Core Skills

Backend Development: REST/HTTP services, microservices, API design
Languages: Go, Rust (primary), C/C++ (low-level systems)
Databases & Storage: PostgreSQL, MongodDb, RocksDB
Distributed Systems: MPI, cluster computing, parallel processing
Systems Programming: concurrency, performance optimization
Tooling & Infrastructure: DSL design, build systems, developer tools
Open Source Development: cross-platform libraries and tooling

Professional Experience

Lyftdata — Backend Developer (2023–2025)
Developed backend services in Rust for data engineering workflows; designed HTTP APIs backed by PostgreSQL; worked on distributed workloads. Worked on visual editor for DSL and tuned GPT 4.1 with examples and documentation to reliably generate DSL data processing pipelines based on user requests.

Snode — Software Developer (2020–2023)
Built backend systems in Go with focus on reliability and performance; worked with microservices and storage-backed applications.

Panoptix — Software Developer (2018–2020)
Developed backend and systems-level components; contributed to service-oriented architectures. Developed custom DSL for expressing data processing pipelines.

Embedded IQ — Software Developer (2014–2018)
Worked on real-time embedded systems and Linux-based sensor networks.

COMRO / CSIR Mining Technology — Software Developer & Researcher (1992–2014)
Scientific computing, HPC (MPI), sensor data systems.

Khanya College — Lecturer in Physics (1988–1991)

Open Source & Publications

Author of 'Gentle Introduction to Rust'
Author of 'C++ By Example' (2002)
The UnderC C++ interpreter
chrono-english – a Rust library to parse informal dates like the **date** command
Runner – an application to run Rust snippets and manage a shared crate cache
Penlight – a set of useful Lua libraries (available as a Debian package)
Ldoc – a Lua documentation tool (also in Debian)
Lake – a general-purpose build tool in Lua

Education

BSc (Hons) Physics — University of the Witwatersrand