Gavin Keeley

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LinkedIn Profile

Work

BridgIoT (RF) (Pty) Ltd (2021 → 2022)
- Role: Firmware Engineer.
- Experience: Sigfox, PIC & STM32 MCUs, Production, Certification, Low Level C.
- Projects: See personal site – **link**.
- Reference: Arno Scholtz (former CEO) **LinkedIn**.

Octoco Ltd (2022 →)
- Role: Embedded Engineer.
- Experience: STM32 MCUs, Low Level C, ESP32.
- Website: **octoco.ltd**
- Projects: See personal site – **link**.

Education

Stellenbosch University (2017 → 2021)
- Bachelor of electrical and electronic engineering.
- Interests: Electronic Design, Computer Systems
- Final Project: Flood Warning System (83% result).

Kearsney College (High School) (2012 → 2016)
- Subjects: IT, Science, Life Science, Maths, AP Maths.
- Sports: Hockey, Soccer, Canoeing.

Embedded Engineering

Background
- Got started with Arduino in early high school.
- Formalised my hobbyist roots with a degree in E&E Engineering at Stellenbosch University.
- Maintained electronics and programming as a hobby.

Microcontrollers
- Mostly STM32 G & L MCUs (a bit of time with PICs).
- Experience working directly with registers (low cost and small flash MCUs).
- Extensive experience writing drivers for I²C, SPI and UART/RS485 devices.
- Extremely-low-power applications (IoT).
- High volume and low cost applications.
- Other: ESP32 (Platformio, Arduino, RTOS), Bluetooth, LoRa, LoRaWAN and Sigfox.

Electronic Design
- Well-thought-out and researched designs.
- Hands on approach.
- Space conscious design.
- Signal and power integrity knowledge.
- PCB Design: Experience in using KiCad and EasyEDA.
- RF: Basic RF PCBs (GPS feed lines, transmission lines).

Programming

Rust
- Busy learning Rust as a replacement for C.
- Excited about the prospect of sharing code between embedded, desktop and web platforms.
- Tauri desktop development (with a Svelte frontend).

Python
- Django & Flask (web backend).
- Reportlab (PDF generation).
- Matplotlib.
- Hardware-Software integration through serial.
- GUI programming with Tkinter.

Web Front End
- Svelte.
- HTML, CSS and Javascript/Typescript.
- Bootstrap & Tailwind CSS.
- Leaflet (maps).
- Chart.js (graphing).

Other
- Java: Basic OOP and GUI programming.
- Proficient in SQL.
- Comfortable using macOS (current), Linux or Windows.

Miscellaneous

Dale Carnegie
- I have completed the Generation Next Course (focus areas: effective communication and human relations).

Interests
- Meteorological instruments (making rain gauges, temperature gauges, solar shields etc.).
- Hiking the Drakensberg and Cape Fold Mountains.
- Canoeing the rivers of KZN.
- Sailing.
- Wildlife and game reserves of South Africa.

Documents
- South African driver's licence.
- South African identity document.
- South African passport.
- Eligible for a British Ancestral Visa.

Languages
- English (home language).
- Afrikaans (strong comprehension, limited speaking ability).