Werner **Bisschoff**

Embedded Software Engineer

Cape Town, Western Cape, South Africa

werner@bisschoff.dev | 067 081 7719 | wbisschoff13

Summary

Versatile software engineer with experience spanning full-stack web, mobile, ERP systems, and embedded development. Skilled in Python, JavaScript/TypeScript, and C++, with a strong track record of improving system workflows, building robust mobile features, and diagnosing complex technical issues across large codebases. Comfortable working across the entire stack, from infrastructure and APIs to device-level logic, and motivated by solving real operational problems with clean, maintainable solutions. Fast learner who adapts quickly to new technologies and contributes meaningfully in cross-functional environments.

Experience

FARO Africa

Cape Town

Full-Stack Software Engineer — *Aug 2024 – Nov 2025*

- Extended ERPNext using Python/JavaScript to improve workflows, pricing logic, and operational reporting (SQL).
- Built mobile features in Expo, including NFC (ISO 14443-4 APDUs) for e-paper price tags and card operations.
- Migrated internal Retool workflows to Expo, significantly improving performance and maintainability.
- Developed and maintained C# APIs supporting internal systems.
- Provisioned AWS infra with Pulumi and deployed services including Inngest and PayloadCMS.
- Diagnosed and resolved issues in a large existing ERPNext installation.
- Introduced LLM-assisted development workflows, improving debugging, code review speed, and internal developer productivity.

Ingenics Digital GmbH *(through ViVa Outsourcing)*

Remote Work

Embedded Software Engineer — *Mar 2023 – May 2024*

- Designed an event-driven finite state machine for an I2C-based embedded system using C++ and FreeRTOS
- Developed ESP32 applications using C/C++ and ESP-IDF
- Integrated a configurable low-energy BLE stack for device communication
- Built Python-based tooling for serial/BLE communication, including client-facing test executables
- Created Python hardware mocks for rapid iteration and early-stage testing
- Managed fast, reliable data interchange using a compact TinyFrame binary protocol
- Implemented asynchronous communication workflows with Python and Pytest
- Developed an active object within the QP Real-Time Embedded Framework (with QSPY) to simulate device behaviour

UMAN Technologies

Century City, Cape Town

Software Developer — *Mar 2021 – Dec 2022*

- Creating and maintaining Docker containers for development and CI/CD testing
- Implementing and testing new services using RPC based on the SOME/IP protocol, as well as using *perf* to reduce performance bottlenecks
- Implementing IPC/RPC in existing C++ programs and Python scripts using Cap'n Proto and pycapnp
- Implementing a node tree to expose process-related variables and function calls to the IPC interface
- Analysing TCP/UDP traffic with Wireshark
- Leading a small team using AGILE development practices, including onboarding and mentoring new software developers

Education

North-West University

Potchefstroom

B.Eng. in Computer and Electronic Engineering — *2020*

- Developing an Android app with Kotlin to emulate an ISO 14443 protocol-based NFC payment system
- Developing microcontroller logic with C and the STM32 system as well as utilizing STM32CubeMX
- Implementing a PID controller with an Arduino to control a DC motor's voltage and speed
- Cleaning and analysing data from large spreadsheets with Python and Pandas, utilizing linear regression, correlation and machine learning

Skills

Embedded C/C++ | ESP32 | ESP-IDF | FreeRTOS | NimBLE | Event-Driven Finite State Machines | QP RTOS

Web ERPNext | Django | REST API | ReactJS | JavaScript | TypeScript | TailwindCSS | ParcelJS | AstroJS | Netlify

Data MySQL | PostgreSQL | Python | Pandas | NumPy | Matplotlib | Jupyter Notebook

Tools Git | Docker | VSCode | Devcontainers | Homebrew | WSL2 | Linux | Ubuntu | Windows | Claude Code