

# Werner Bisschoff

## SOFTWARE ENGINEER

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## Summary

Versatile Computer and Electronic Engineering graduate who is passionate about software technologies. Interested in building exciting and challenging products effectively and efficiently. Always willing to learn new technologies and to adapt to unfamiliar situations.

## Experience

### UMAN Technologies

Milnerton, Cape Town

#### SOFTWARE DEVELOPER

Mar 2021 - Dec 2022

- Automotive ethernet programming with C++
- Unit and integration tests with C++ and Python
- Docker containers for development and CI/CD testing
- System programming with bash scripting
- SQL database design
- Implementing and testing new client services using RPC based on the SOME/IP protocol
- Implementing IPC/RPC in existing C++ programs and Python scripts using Cap'n Proto and pycapnp
- Adapting Cap'n Proto schemas to integrate with existing system
- Implementing a node tree to expose process-related variables and function calls to the IPC interface
- Analysing codebase performance using *perftool* and identifying and reducing performance bottlenecks
- Analysing TCP/UDP traffic with Wireshark
- Leading small software development team using AGILE development practices
- Onboarding and mentoring new software developers

### Expandrand

Remote

#### FREELANCE FULL STACK DEVELOPER

Nov 2020 - Dec 2020

- Architected a full stack content management system to allow viewing and editing of client information and status
- Developed a REST API with Python, Django and Django Rest Framework
- Developed an intuitive front end user interface using CSS, HTML, TailwindCSS, JavaScript and ReactJS

### North-West University

Potchefstroom

#### JUNIOR LECTURER

Feb 2020 - Dec 2020

- Lectured basic Python and C++ programming for *Introduction to Programming* for first year IT students
- Created tutorial videos and content slides
- Collaborated with co-lecturers and tutors to adapt to remote learning

## Skills

**DevOps** Bash, CMake, Docker, Git, GitLab CI

**Back-end** Django, Django Rest Framework, REST API, Cap'n Proto

**Front-end** React, JavaScript, HTML5, CSS, TailwindCSS

**Programming** C++, Python, Julia, Jupyter Notebook

**Platforms** Linux, Windows, WSL, Docker

**Languages** English, Afrikaans

## Education

### NWU(North-West University)

Potchefstroom

#### B.ENG. IN COMPUTER AND ELECTRONIC ENGINEERING

Dec. 2019

- Final year project included the development of an *Android* application to emulate an NFC payment system based on the ISO 14443 protocol, the architecting of the communication protocol, and the design of an algorithm to send and receive encoded data
- Utilised object oriented programming to create a tower defence game using Qt C++, including pathfinding and network communication with the TCP/IP protocol
- Analysed data from large spreadsheets by use of Python, Pandas, and Jupyter notebook, including multi-processing, data cleaning, linear regression, correlation and basic implementation of machine learning with Sklearn
- Developed microcontroller logic with C and the STM32 system
- Implemented a PID controller with an *Arduino* to control a DC motor's voltage and speed