

# 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 - Present*

- Working on automotive ethernet programming with C++
- Unit and integration tests with C++ and *Python*
- *Docker* containers for development
- System programming with bash scripting
- *SQL* Database design
- Implementing and testing new client services based on the *SOME/IP* protocol
- Using *AGILE* development practices
- 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*

### 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

<b>DevOps</b>	Bash, CMake, Docker, Git, GitLab CI, Parcel.js
<b>Back-end</b>	Django, Django Rest Framework, REST API
<b>Front-end</b>	React, JavaScript, HTML5, CSS, TailwindCSS
<b>Programming</b>	C++, Python, Julia, Jupyter Notebook
<b>Platforms</b>	Linux, Windows, WSL, Docker
<b>Languages</b>	English, Afrikaans

## Education

### 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
- Compiled effective, consistent reports with  $\text{\LaTeX}$