

# CURRICULUM VITAE





## BARNABAS TINARWO

### PROFILE


*A highly motivated and hardworking Information Technology Certified Professional ITCP(SA) seeking an opportunity to apply his knowledge in the engineering industry to build upon a keen scientific interest and to effect positive change in the world as a computer engineer.*

**Date of Birth** 2 December 1996  
**Place of Birth** Bulawayo, Zimbabwe  
**Nationality** Zimbabwean  
**I.D. Number** 08-2114788-D-11  
**Passport Number** EN679185  
**Languages Spoken** English, Shona, Ndebele, Zulu  
**Marital Status** Single

### CONTACT

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### HOBBIES

 Music  Chess

### SKILLS

- MATLAB, C, C++, Java, Assembly Programming
- PL/SQL programming
- Python, Tornado
- Elasticsearch, Redis, RabbitMQ
- Deep Learning in Python using Keras
- Optimization in MATLAB
- Machine Learning in MATLAB
- HTML5, CSS and Bootstrap web development, Vue.js
- IoT using ESP modules
- Technical Documentation and oral presentation
- Git and Bit Bucket Version Control

### ACHIEVEMENTS

- 2012** International Computer Driving Licence (ICDL)  
Best Computer Studies Student (O Level)
- 2013** Best O Level Results  
Best Mathematics student
- 2016** Deans Commendation  
Certificate of Merit (Electrical Design)
- 2017** Certificate of Merit (Basic IsiZulu)  
Golden Key Society Nomination
- 2017** Deans Commendation
- 2019** IEEE HKN Eta Kappa Nu induction  
Co-Founder of Varsity Genie Club (UKZN Chapter)  
Finalist at the SANReN National Cyber Security Challenge  
Highly Commended Final Year Project  
Certificate of Merit (Computer Design)
- 2021** Newcomer of the Year (2020) at 2CANA Solutions

### EDUCATION

#### UNIVERSITY OF KWAZULU-NATAL

**Bachelor of Science in Computer Engineering**  
**2016 - 2019**

GPA 71%

#### ANDERSON HIGH SCHOOL

**Advanced Level**

**2014 - 2015**

<u>Subject</u>	<u>Symbol</u>
Chemistry	A
Physics	B
Mathematics	B

**Ordinary Level**

**2010 - 2013**

<u>Subject</u>	<u>Symbol</u>
Mathematics	A
Computer Science	A
Biology	A
Chemistry	A
Physics	A
Integrated Science	A
Geography	A
English Language	A
Ndebele	A
Religious Studies	A
History	A



## EXPERIENCE

### 2CANA SOLUTIONS

#### Junior Software Developer

January 2020 - Current

Leveraging Oracle Driven solutions to design and implement software solutions to a vast number of clients operating in the insurance industry.

##### Key duties include:

- Requirements gathering
- Code Analysis and Debugging
- Code Development and implementation using PL/SQL and Oracle Forms
- Unit and Integration Testing
- Code Maintenance and Defect Fixing and Deployment
- Technical Documentation

### F-SECURE CORPORATION

#### Intern

Nov 2019 – Dec 2019

A three-week long internship comprised of research and implementation of various technologies to create a Command and Control web interface that issues instructions to endpoints. (Hours worked 20hours per week)

##### Key skills attained:

- Use of RabbitMQ as a message broker
- Use of Redis in-memory data structure storage as a database
- Use of Elasticsearch as a NoSQL data store
- Creation of API using the Tornado Web framework
- Frontend design using Vue.js

##### Accomplishments

- Created a simple full stack system to send commands from the frontend to endpoint agents hosted on a virtual machine and retrieve the response from an Elasticsearch index.

### OPTI-NUM SOLUTIONS

#### Intern

Dec 2017 – Jan 2018

An eight-week long vacation work program split into two sessions. Comprised of research and implementation of machine learning algorithms to perform motion classification using EEG signals from the brain. (Hours worked 20hours per week)

##### Key skills attained:

- Collect EEG signals from an emotive EPOC headset.
- Perform signal analysis and filtering to process EEG signals.
- Perform feature extraction and classification of a dataset.
- Use machine learning to create a model for motion prediction.
- Object Oriented Programming in MATLAB to create an interactive GUI.
- Model-View-Controller architectural pattern for GUI development.
- Creating professional technical documentation to clients.

##### Accomplishments

- Developed a machine learning model and integrated with GUI interface to classify motion from input data.

### OPTI-NUM SOLUTIONS

#### Intern

Dec 2018 - Jan 2019

Another eight-week long vacation work program split into two sessions. Comprised of research and implementation of machine learning algorithms to perform Fantasy Premier League team optimisation using historical data. (Hours worked: 20hours per week)

##### Key skills attained:

- Web scraping for data from website.
- Data Analysis of collected data.
- Data Cleaning and feature extraction.
- Project management and teamwork.
- Optimisation and Machine Learning in MATLAB.
- Technical presentation of project.
- Agile software development.

##### Accomplishments

- Developed classification and regression machine learning models, performed optimization and integrated with a GUI interface to predict the dream team of the Fantasy Premier League.

### UNIVERSITY OF KWAZULU-NATAL

#### Supplementary Instruction Leader

Aug 2018 – Nov 2019

Conducting extra lessons for first and second year students in high risk modules. (Hours worked 2hours per week)

##### Key skills attained:

- Presentation of information to students.
- Planning and management of lessons.
- Interpersonal skills.
- Tutoring Chemistry and programming (JAVA and C) to students.

### UNIVERSITY OF KWAZULU-NATAL

Jan 2016 – Nov 2019

As a student I worked on several projects both on the hardware and software fields.

#### 1. Automatic Sign Language Translation to Text

Using Deep Learning and Computer vision I designed and implemented a system that made use of a webcam and a deep-learning model to translate the American Sign Language to text.

#### 2. Access and Controls System (ACS)

In a multi-disciplinary group of 4 students, we designed an access and control system that made use of NFC and WIFI technology to control entry into a building/office. I worked mainly on the User interface used to configure the access points through communication between a PC and an ESP8266 Wi-Fi module.

#### 3. Speed Measurement Unit (SMU)

In a group of 4, I was responsible for the design and implementation of a speed measuring unit of an induction motor by making use of analogue electronics only. The unit had two overarching functions i.e. determining the speed at which the fan is operating, and display this speed to the user. An Infrared LED and phototransistor pair was employed along with a BCD counter.

# REFERENCES

## STEVEN KOMMER

### Team Leader

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## KIRSTEN SMITH

### Application Engineering Manager

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## TRAVIS FORD

### Supervisor

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