

Samukelo Msimanga

COMPUTER ENGINEERING GRADUATE · ASPIRING ML ENGINEER



EDUCATION

2023 – 2025 **BEng Tech in Computer Engineering**

CAPE PENINSULA UNIVERSITY OF TECHNOLOGY

📍 BELLVILLE, WESTERN CAPE, SOUTH AFRICA

- Key Modules: Signal Processing, Computer Graphics, Network Systems & Embedded Systems
- Final-year Project: Brain Computer Interface Using Non Invasive Electro-Encephalography

2018 – 2021 **National Senior Certificate**

KHANYA LESEDI SPORTS SCHOOL OF SPECIALISATION

📍 RATANDA, GAUTENG, SOUTH AFRICA

PROFESSIONAL EXPERIENCE

2024 – 2025 **Student Tutor – Computer Engineering Department**

CAPE PENINSULA UNIVERSITY OF TECHNOLOGY

📍 BELLVILLE, WESTERN CAPE, SOUTH AFRICA

- Assisted students with programming, electronics, and signal processing concepts.
- Conducted lab sessions for Arduino and embedded systems practicals.

PROJECTS

2024 **Pacman Game Implementation Using WebGL**

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- Designed and implemented the classic Pacman game using WebGL for computer graphics rendering.

[GitHub Link](#)

2025 **Brain-Computer Interface Neural Network**

CAPE PENINSULA UNIVERSITY OF TECHNOLOGY

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- Developed a neural network pipeline to process EEG signals using Python and Julia.

[GitHub Link](#)

2025 **SDN Network Controller**

CAPE PENINSULA UNIVERSITY OF TECHNOLOGY

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- Designed a software-defined controller by integrating OpenDaylight (ODL) with GNS3 and VirtualBox.
- Engineered dynamic routing logic using BGP and OSPF protocols to ensure efficient traffic management and network stability.
- Developed a deep understanding of network virtualisation and automated traffic control.

[GitHub Link](#)

TECHNOLOGIES

Python

APPLIED IN AI/ML AND DATA SCIENCE

- Built a [Video Downloader](#) using [yt-dlp](#) and [Flask](#) to scrape and serve multimedia from platforms like [Facebook](#), [X/Twitter](#), and [TikTok](#).

JavaScript

APPLIED IN WEB DEVELOPMENT & GRAPHICS

- Applied [WebGL](#) for interactive graphics rendering in browser-based applications.

C / C++

APPLIED IN EMBEDDED HARDWARE CONTROL SYSTEMS

- Programmed Arduino-based projects, including a solar-powered washing machine simulation.

Java

APPLIED IN APPLICATION DEVELOPMENT

- Created a [Pong Game](#) with Java Swing for rendering and mechanics.

REFERENCES

Dr Oluwaseyi Paul Babalola

CAPE PENINSULA UNIVERSITY OF TECHNOLOGY

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 BELLVILLE, WESTERN CAPE, SOUTH AFRICA

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