

NELISIWE MTHOMBENI

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PROFESSIONAL SUMMARY

Motivated and technically minded Mechanical Engineering student with a strong interest in plant operations, machinery, maintenance and industrial processes. Possesses a good understanding of engineering principles, manufacturing processes, thermodynamics, mechanical systems and workplace safety through academic coursework and practical laboratory work. A hardworking, reliable and eager learner who works well in a team and is willing to learn through both formal and on-the-job training. Seeking the opportunity to develop practical plant-operation skills. Brings hands on project experience in turbine and pump systems, mechanical design, and technical reporting, together with a strong commitment to safety, professionalism, and continuous learning.

EDUCATION

Diploma in Mechanical Engineering (Final Year)

Cape Peninsula University of Technology

Key modules: Steam Plant, Mechanical Engineering Design, Mechanics of Machines, Applied Strength of Materials, Hydraulic Machines, Applied Mathematics, CAD

National Senior Certificate, 2022

Mphanama Secondary School

- Mathematics: 63% (Level 5)
- Physical Sciences: 55% (Level 4)
- Engineering Graphics and Design: 67% (Level 5)
- Mechanical Technology (Fitting and Machining): 83% (Level 7)

TECHNICAL SKILLS

- AutoCAD and computer aided design tools
- Engineering drawing interpretation and design review
- Mechanical design fundamentals
- Hydraulic systems and thermodynamics principles
- Mechanics of machines and strength of materials
- Basic computer literacy and technical documentation
- Workshop safety awareness
- Hand tool use and mechanical assembly

PROJECT EXPERIENCE

Helical Spring Propelled Floating Vessel 2025

- Designed and built a spring powered vessel capable of transporting a 1 litre load across a 12 metre pool
- Applied mechanical energy storage principles using helical springs as propulsion
- Produced technical documentation explaining the design and system performance

Investigation of Cavitation in a Hydraulic Turbine 2025

- Constructed a small scale hydraulic turbine system using centrifugal pump principles
- Investigated cavitation effects in turbine operation and prepared a detailed technical report

Water Sensor Automation Project 2023

- Researched water conservation using sensor technology
- Built an Arduino based system capable of detecting water presence and triggering alerts

PROFESSIONAL SKILLS

- Good communication and discipline
- Problem solving and analytical thinking
- Teamwork and collaboration
- Attention to detail
- Time management
- Strong willingness to learn

AVAILABILITY

- Available for Work Integrated Learning placement
- Willing to relocate
- Available immediately

REFERENCES

Available upon request