LOUIS S. VAN DER WALT

Klerksdorp, South Africa | +27 72 984 6261
vanderwaltl220@gmail.com | 35703458@mynwu.ac.za
linkedin.com/in/louis-van-der-walt | github.com/louisvanderwalt

SCAN FOR LINKEDIN

PROFESSIONAL SUMMARY

Graduate Computer and Electronic Engineer specializing in embedded systems, avionics interfacing, and industrial automation. Experienced in aerospace PCB design, PID control, and real-time multitasking firmware using FreeRTOS. Current member of the Royal Netherlands Society of Engineers (KIVI), dedicated to professional growth in the Dutch engineering sector through technical excellence and Dutch language acquisition.

EDUCATION

North-West University (NWU) Potchefstroom, SA
Bachelor of Engineering in Computer and Electronic Engineering Jan 2021 – Dec 2026 (Expected)

- **Academic Profile**: 488/616 credits completed. Cumulative GPA: 62.98%.
- **Specializations**: Embedded Systems, Signal Theory, Control Theory, and Microelectronics.
- **Affiliations**: Member of the KIVI Engineering Society.

TECHNICAL EXPERTISE

- **Programming Languages**: C, C++, Python, FreePascal, MATLAB, Assembler, HTML, PHP, JavaScript.
- **Protocols & Communication**: CANBUS, SAE J1939, ARINC 429, RF Telemetry, SPI, I2C.
- **Engineering Tools**: MATLAB/Simulink, LTSpice, KiCad, Altium Designer, EasyEDA, FEMM, Excel, Cisco Packet Tracer, Git, Docker.
- **Industrial & Embedded**: FreeRTOS, STM32 (Cortex-M4), Siemens PLC (PRO Micro/1), 3-Phase SPWM.

WORK EXPERIENCE

Wagtail Aviation (Noble Aerospace Systems) *Vacation Work*

- Designed and optimized PCBs and circuits for specialized aerospace applications.
- Developed PID controller logic and designed embedded systems for dual trim configurations.

Jericho Systems *Vacation Work*

- Conducted high-precision soldering for mass production electronic components.

ENGINEERING PROJECTS

Hydroponic Hoist Embedded Controller *Design Project 2025*

- Designed an STM32-based motor controller using FreeRTOS for 10 kHz 3-Phase SPWM generation.
- Implemented S-curve acceleration for mechanical stability and established RF-based safety watchdogs.

IoT Smart Irrigation System *Personal Project*

- Engineered a Raspberry Pi-based system for global remote scheduling and control via mobile platforms.

Senior Capstone Project (Candidate) *Expected 2026*

- **Avionics Interface Bridge**: Designing an ARINC 429 hardware-to-simulator bridge.
- **IoT Network Toolkit**: Developing automated deployment systems for rapid sensor networking.

LEADERSHIP & EXPERIENCE

Student Assistant | North-West University *2024 – 2025*

- **Signal Theory (EERI222)**: Assisted in tutorials covering Fourier analysis and digital filters.
- **Engineering Analysis (MTHS223)**: Facilitated instruction for Z-Transforms and Vector Calculus.

High School Leadership | Sasolburg High School

- **Representative Council for Learners (RCL)** *2019*

- **Chairperson of USCA** (UCSA Sasolburg) *2018*
- **Member of the Provincial Council of the Free State** (UCSA) *2018*

AFFILIATIONS & CERTIFICATIONS

- **Professional Member**: KIVI (Royal Netherlands Society of Engineers).
- **Siemens Certified**: PLC PRO micro and PRO 1.
- **AWS Academy Graduate**: Cloud Foundations (Issued 05/18/2025).
- **Languages**: English (Fluent), Afrikaans (Native), Dutch (Learning / Intermediate).