Resume

Profile

Name	*Privilege Mendes*
Date of Birth	*18 November 1994*
Gender	*Male*
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Skills

- Analog and digital circuit design
- Embedded software development (C programming)
- Project Management
- Power Supply Design - Switch mode buck/boost and linear and low power sensitive designs
- Communication protocols - USB 2.0/3.0, RS232, I2C , SPI driver implementation on STM32
- Microcontrollers - ARM Cortex M4, Cypress BLE, Atmel, PIC and STM32
- IOT - Sierra Wireless GSM/GPS Modules, Quectel and Telit
- Design for testability, manufacturability and EMC compliance
- Component footprint design adhering to IPC standards
- Programming Skills (C, HTML, CSS, SQL and React), Python, Tcl, XJTAG and fault finding methods
- Technical Documentation - product hardware requirements, assembly instructions, hardware test procedures
- Hardware design - power budget, high level, schematic design, pcb layout and routing using Altium (2, 4, 6 layer)
- Stakeholder management with suppliers, project sponsors and PCB manufacturers
- MIL-STD environmental test procedures, including temperature, vibration and shock
- Source Control via Github and Source Anywhere

- Project management tools MS project, and Jira

Accomplishments

- Developed automated test development system to perform qualification tests on cryptographic devices, reducing qualification tests duration by 40%
- Identified and motivated for authorization to a supplier change of military grade cable harnesses that provided 50% in cost savings and retained quality
- Acted as junior project manager for budgeting, planning and monitoring risk during the production run of a flagship product ordered from Armscor (Armaments Corporation of South Africa)

Professional Experience

Hardware Engineer (full-time) 2018 - Current

Nanoteq - Centurion, South Africa

- Achieved project deadlines by coordinating with contractors to manage performance.
- Traveled to assembly manufacturing houses to provide prompt resolutions to production issues.
- Directed, mentored and monitored support engineers and production personnel for improved deployment and operations.
- Drafted clear technical documentation, detailing product design specifications, schematics ,PCB design and assembly instructions of existing and new products
- Supported senior engineers in conducting design experiments to determine design specifications
- Tested completed projects for functionality and implemented changes to production methods to rectify issues in final products.
- Designed development station systems to assist software developers to perform software integration tests.

Electronics Engineer Intern (part-time) 2015 - 2017

Nanoteq - Centurion, South Africa

- Assisted Principal design engineer in performing updates to schematic designs
- Created component footprints adhering to IPC standards using Altium
- Performed automation tests scripts for mobile applications
- Performed updates to production test scripts

Projects

Vehicle tracking system for Bosch South Africa

- Designed a portable vehicle tracking system. The tracking system consisted of a 2G GSM/GPS module, MCU, and accelerometer to detect vehicle movement powered by lithium battery.

2Wheel Controller for Bosch South Africa

- Designed a motorcycle power controller prototype, tested for KTM and Honda Adventure motorcycles. The power controller provides automatic switching from primary and secondary battery, motorcycle location detection (GSM/GPS module) and motorcycle fall detection. The device sends an alert via GSM once the accelerometer detects the motorcycle has fallen for over 30 seconds.

Bosch Production Test Jig

- Designed a production test jig to test the vehicle tracking system and 2Wheel Controller detect production faults, voltage and current measurements and production test application downloads. The test jig is controlled by a PC application. A communication protocol was implemented with interface commands.

Pulse Count Collector Water Meter prototype

- Designed a water meter system to monitor water usage for housing estate. The device records the amount of water usage per litre from a borehole and sends data via GSM. The server then records the data and sends a quote to each house within the estate.

Languages

- English, Full professional proficiency
- Portuguese, Full professional proficiency
- Afrikaans, Professional working proficiency

Education and Training

- Executive Development Certificate : Project Management, 2021

  Implemented a project plan based on a work experience to showcase Project Management Fundamentals, Stakeholder Management, Cost Management, Procurement Management , Grade 90%

  University of Stellenbosch Business School - Stellenbosch, South Africa
- Bachelor of Engineering, Electronic Engineering, 2017

  3rd Place in Microcontrollers: line following robot competion 2016

  Member of Golden Key International Society 2015

  Member of University of Pretoria Mopanie residence governing body 2015

  University of Pretoria - Pretoria, South Africa

References

- Deon Theunissen, Principal Design Engineer at Nanoteq

  Email: dt@nanoteq.com
- Chris Wagner, Technical Manager at Nanoteq

  Email: cfw@nanoteq.com
- MC Botha, Head of Project Management Diploma at University of Stellenbosch Business School

  Email: mcbotha@usb.ac.za