

# Pedzi Tokwe

## Mechatronics Engineer

Proactive Mechatronics Engineer with experience in industrial automation, IoT, microcontroller & PLC programming, electronic circuit designing, installation repair and maintenance and software development, possessing in-depth knowledge of various programming languages, SQL and NoSQL databases and best practices for development. Solutions-based collaborator well-versed in testing and simulating automated machinery, developing and implementing automated testing methodologies and supervising testing activities. Offering 6 years of experience creating and applying technology to monitor and control production and delivery of IT, hardware, software and IoT services.



### Work History

2021-07 -  
Current

#### Mechatronics Engineer

*Alien Automation Technologies, Cape Town, South Africa*

- Build and maintain SQL scripts, indexes, and complex queries for data analysis and extraction
- Conduct onsite and offsite electrical and electronics troubleshooting repair and maintenance
- Design PCB schematics and layout and built prototypes for testing and design improvement, soldering SMD and THT type components onto PCBs
- Designed and implemented quality testing procedures for electronics including PCB assemblies, touchscreens, RFID devices, HMI devices, sensors and IoT devices
- Develop software for IoT devices and performed code reviews and maintenance using Java, JavaFX, SQL and embedded C
- Build Android mobile applications for integration with Alien's processes and hardware and IoT devices Using Java
- Program and maintain microcontroller (STM32 Arm Cortex, 8051 architecture) based IoT devices
- Manage and control assembly line process



### Contact

#### Address

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#### Phone

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#### E-mail

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#### LinkedIn

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#### Twitter

<https://twitter.com/Tokwepedzisai>



### Skills

Automation and Control systems understanding

PLC troubleshooting

PLC Programming

2017-05 -  
2020-06

## Field Engineer

*Power-Star Energy Intelligence, Cape Town, South Africa, South Africa*

- improvements and Quality Assurance
- Provide remote (software and hardware) support to technicians
- Update and maintained project documentation for detailed recordkeeping.
- Designed and implemented IoT cloud-based energy and production line monitoring solutions for manufacturing industries
- Conducted site inspections, project planning and effectively interacted with clients' engineering and production teams to deliver accurate OEE measurement solutions and production data.
- Performed installations, commissioning and provided on site training to clients' production line teams and management on OEE measurement system, electricity & water meters monitoring dash boards and related analytics
- Researched and developed Raspberry pi based HMI for production line/process monitoring, interfacing GPIO pins with photoelectric sensors and capacitive and resistive touch screens and flow meters
- Designed analog and digital circuits, I2C, SPI, US
- Designed PCB schematics and layouts for fabrication and populated PCBs for prototyping
- Conducted electrical panel inspections, gathered and analyzed data for thermal and power factor analysis
- Performed PLC troubleshooting and programming, interfacing with variety of sensors on wide range production lines
- Conducted Software maintenance of Raspberry Pi based devices using commanding to add, update or remove dependencies
- Prepared documentation that would be used in requests for proposal.

Proficient in Altium and KiCad

Circuit and PCB designing

Design of experiments

Electronics prototyping

Java programming

C programming

SQL

NoSQL-  
Firestore,MongoDB

Testing scripts and cloud functions-JavaScript

Android Studio/Android development

Version control using Git

2014-06 -  
2016-06

## Utilities Technician

*Delta Beverages, Coca Cola Plant, Harare, Zimbabwe, Zimbabwe*

- Performed repair and maintenance work on bottling line to ensure minimal down time
- Conducted electronic troubleshooting on production line equipment including power supplies, Siemens PLCs, sensors, flow meters
- Placed warehouse orders to replenish spares
- Monitored system operations to improve effectiveness, efficiency and Health and Safety regulatory compliance.
- Planned and performed preventive maintenance on engines, motors, pumps, controls and chemical feed systems.
- Observed operation of water pumps, electric motors and chemical feed machines by reading various charts, graphs, gauges and meters.
- Checked accuracy of meters against previous data and kept detailed reports of inconsistencies.

2012-01 -  
2013-01

## Electronics and Communications Intern

*Scientific and Industrial Research and Development Center (SIRDC), Harare, Zimbabwe*



## Education

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2009-09 -  
2013-12

## BEng: Mechatronics CUT



## Affiliations

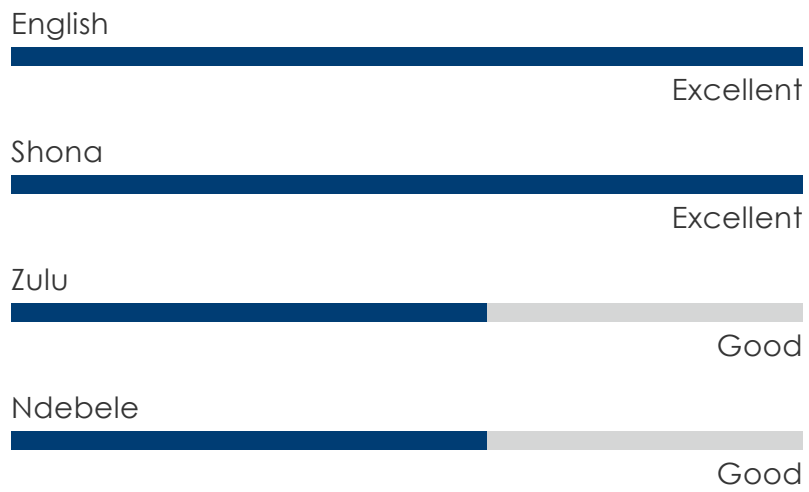
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Engineering Council of South Africa  
Zimbabwe Institute of Engineers



## Languages

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## Interests

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Artificial Intelligence

Sustainability

Internet of Things

Software and automation technologies