Tlotliso Jonas

Electromechanical Engineering Student + Web Developer

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 tlotlisojonas.github.io

Work Experience

Embedded Systems 1 Tutor   March 2019 - June 2019

University of Cape Town

Currently tutoring embedded systems 1 course to engineering students. The course involves digital electronics of logic gates and c programming of the STM32FOC651 micro controller and I tutor the c programming part of the course

Dual Arm Scara Robot   26 November 2018 - 11 February 2019

UCT ROBOTICS AND AGENTS RESEARCH LAB

The project was divided into two parts and the first part was to investigate comparison between the use of pneumatic cylinders, air muscles, and geared electric motors as actuators to be used to accurately position the end effector attached to the robot arm(s) in a cartesian co-ordinate frame. Finally I built version 1 of the dual arm scara robot.

The second part of the project was in a form of team work where I worked with the other three Engineering students (Electromechanical, Mechanical and Mechatronic Engineering) to built an educational manufacturing cell prototype. I was working with an Electromechanical Engineering student to built a sub system (version 2 of the Dual arm scara robot) of the manufacturing cell, this was about improving the version 1 of the dual arm scara robot. The Electrical engineering student built a conveyor and the Mechanical Engineering student built a gripper for the end effector of the robot arm. All the sub systems were then integrated together to make a functional unit.

Making Waves Project Manager   July 2018 - November 2018

University Of Cape Town

Resposible for managing "Making Waves" Project

Key Contributions:

- Coordinating regular meetings
- Assigning work to team members
- Ensuring that team members do their work as expected
- Ensuring that the team meets all the deadline
- Managing the team resourses
- Ensure efficient communications among all stakeholders
- Accepting and analyising change requests then making team decisions

Academic Representative   February 2018 - November 2018

KUTLWANONG

Responsible for keeping society members motivated in terms of their academics and help them with anything relating to their academics.

Summary

I am currently at UCT doing my final year in BSC(eng) Mechanical and Mechatronic Engineering. On my part time I build small personal websites. I am passionate about programming and artificial intelligence solutions.

Community Service

High School Tutoring

Tutoring Bluegubosch High School Matric Learners Mathematics, Physical Sciences, Life Sciences and Geography in 2017.

Skills

Programming Languages:

- Python
- C
- JavaScript
- MySQL
- PHP
- CSS
- HTML

Engineering

- Robotics
- Welding
- Fitting and turning
- Pneumatics
- CNC
- Basic hand skills
- Meteorology

Engineering Computer Programs:

- LabView
- SolidWorks

Technology Exposure   1 December 2017 - 14 December 2017

Cape Peninsula University of Technology

Training in Welding, Fitting and Turning, CNC Programming, Metrology, Pneumatics, Basic Hand Skills And Robotics

'Brown Ground' Floor Rep   February 2017 - November 2017

KOPANO RESIDENCE

Key Contributions:
- Assisted my floor mates with their daily basic residence needs
- Responsible for collection and distribution of study snacks
- Keeping and monitoring the floor cleaning equipment

University of Cape Town Completed Courses

Third Year: 2018 Courses

Course Description

1. Embedded Systems 1

2. Energy Conversion and Utilization

3. Mechatronics Design 1

4. Project Management

5. Mechanics of Solids 2

6. Dynamics 2

7. Thermofluids 2

8. Computer and Intergrated Manufacture and Robotics

9. Professional Communication

10. Machine Element Design 2

11. Machine Element Design 3

12. Statistics for Engineers

Second Year: 2017 Courses

Course Description

1. Introduction to Programming

2. Introduction to Electrical Engineering

3. Introduction to Electronic Engineering

4. Vector Calculus for Engineers

5. Linear Algebra And Deferential Equations for Engineers

6. Thermofluids 1

7. Dynamics 1

8. Mechanics of Solids 1

9. Materials Science in Engineering

10. Machine Element Design 1

Microsoft Office

- Microsoft Excel
- Microsoft Word
- Microsoft PowerPoint

Achivements

2018:
- KPMG Innovation And Collaboration Challenge 2019 National Finalist

2015:
- Free State top 100 provincial awards
- Bluegumbosch Secondary top learnder awards
- Kutlwanong Maths And Physics Awards

2014:
- Bluegumbosch Secondary top learnder awards
- Kutlwanong grade 11 top learner award

2013:
- Bluegumbosch Secondary top learnder awards
- Kutlwanong grade 10 top learner award

Languages

- Sesotho And English.

Interest And Hobbies

- **Programming**: I enjoy building small c and python programs and develop small websites.
- **Chess**:I love playing chess with friends and I usually participate in chess tournaments.
- **Gym**: I am into physical fitness and gym is part of my weekly routine.
- **Music**: I enjoy listening to good music.