

# Jonathan Mwaniki Okeke

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## EDUCATION

### HYPERIONDEV

Software Engineering Program

Feb 2021 - May 2021 | (On-going)

Johannesburg, South Africa.

### UNIVERSITY OF JOHANNESBURG

BEng Electrical & Electronic Engineering

Status: Completed | Jan 2017 - Dec 2020

Johannesburg, South Africa.

Average Grade : 78 %

### AGA KHAN ACADEMY, MOMBASA

International Baccalaureate Diploma

Sep 2014 - July 2016 | Mombasa, Kenya.

Points : 36

## SKILLS

### TECHNICAL SKILLS

Java and Python Languages

- Object-Oriented Programming
- Data Structures & Algorithms
- Django Framework
- Flask
- Databases | MySQL
- Git Version Control

Machine Learning Tools

- Scikit-Learn, TensorFlow 2.0 & Keras API
- Pandas, NumPy & Matplotlib

Other Programming Languages

- MATLAB | C++ | ROS

PLC Programming

- Schneider and Siemens PLC software.

## CERTIFICATES

Machine Learning Fundamentals.

Coursera | University of Washington

Date Received: April 2021

Modern Robotics-

Robot Motion & Kinematics.

Coursera | Northwestern University

Date Received: December 2020

## EXPERIENCE

### GEOMAX CONSULTANTS

Intern Position

Dec 2015 - Jan 2016 | Nairobi, Kenya

Shadowed a professional Electrical Engineer.

Gained knowledge in:

- Commercial infrastructural electrical design.
- Electrical wiring and PLC system installation.

## KEY ACHIEVEMENTS

### SHELL-ECO MARATHON COMPETITION

Vehicle showcase | Gallery Link

Role: Team Leader & Propulsion Team Lead.

Aug 2019 - Oct 2019 | Pretoria, South Africa.

- Designed and built a battery-electric prototype vehicle alongside six teammates.

Role: Electrical Schematics & Embedded Systems

Aug 2018 - Oct 2018 | Pretoria, South Africa.

- Designed and built a hydrogen fuel cell prototype vehicle alongside three teammates.
- Set a new vehicle efficiency record which qualified our team for the global finalist competition that year.

### ECSA STUDENT CHAPTER TEAM

Role: Solar Team Lead

May 2020 - Present

- Worked on the UJ Solar Car project towards the 'Sasol Solar Car Challenge'.

### LEADERSHIP OPPORTUNITIES

- Boys Residence Hall Leader | Aga Khan Academy | 2015 - 2016

## PERSONAL TECHNICAL PROJECTS

### AUTONOMOUS WASTE SORTING ROBOT

Robotics | Deep Learning | Computer Vision

- Link to project video | <https://youtu.be/jpArZs5jvVg>
- Consisted of a 3-D printed robotic arm powered by a convolutional neural network and machine vision.
- The CNN model was trained to detect and classify the five main classes of recyclable waste materials.
- Programmed in Python and leveraged the TensorFlow and OpenCV frameworks.

### PRE-OWNED VEHICLE SALE PRICE PREDICTION

Machine Learning | Flask Web Application

- Link to web app | Web App Link
- Link to the full project on GitHub | Project Link
- Trained a Random Forest Regressor model to predict the sale price of a used vehicle based on several vehicle characteristics from a Kaggle dataset.
- Deployed the model to the web using Flask within a simple webpage written in HTML.
- The web app allows the user to input information about a vehicle and then suggests a sale price for the vehicle.
- The web app is hosted by Heroku.

## REFEREES

Prof. Khmaies Ouahada

DEng: Electrical Engineering | University of Johannesburg

Head of Dept | Electrical & Electronic Engineering Science

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