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

Modern Robotics-
Robot Motion & Kinematics.
Coursera I Northwestern University
Date Received: December 2020

Intro to Machine Learning.
Coursera I Duke University
Date Received: Sep 2020

EXPERIENCE

GEOMAX CONSULTANTS
Intern Position
Dec 2015 - Jan 2016 I Nairobi, Kenya
Shadowed a professional Electrical Engineer.
Gained knowledge in:
- Commercial infrastructural electrical design.
- Electrical wiring and PLC system installation.

PERSONAL TECHNICAL PROJECTS

AUTONOMOUS WASTE SORTING ROBOT
Robotics I Deep Learning I Computer Vision
- Link to project video I 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 I Flask Web Application
- Link to web app I Web App Link
- Link to the full project on GitHub I 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.

A* PATH PLANNING VISUALIZER
Search Algorithms I Object Oriented Programming
- Link to video demo I Video Link
- Link to the full project on GitHub I Project Link
- Developed a path planning visualizer implementing the A* search algorithm.

KEY ACHIEVEMENTS

SHELL-ECO MARATHON COMPETITION
Vehicle showcase I Gallery Link

Role: Team Leader & Propulsion Team Lead.
Aug 2019 - Oct 2019 I Pretoria, South Africa.
- Designed and built a battery-electric prototype vehicle alongside six teammates.

Role: Electrical Schematics & Embedded Systems
Aug 2018 - Oct 2018 I 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.

REFEREES

Prof. Khmaies Ouahada
DEng: Electrical Engineering I University of Johannesburg
Head of Dept I Electrical & Electronic Engineering Science
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