

Lyle Okoth

Founder, Oryks Robotics

Robotics Engineer

As a passionate robotics engineer, I leverage my design expertise, analytical skills and knowledge of production processes to come up with robot designs for the logistics and supply chain industry that are manufactured and assembled in the shortest time possible and as cost effectively as possible. I want to make the packaging and delivery of goods from e-commerce sites as fast and cheap as possible.

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WORK EXPERIENCE

Founder, Oryks Robotics

04/2021 – Present

Tasks

- **Set the startup mission, vision and execution strategy.**
- **Source funding.**
- **Lead the marketing, community outreach and ensure legal compliance.**

Robotics Engineer

Oryks Robotics

04/2021 – present

Tasks

- **Mechanical design of robot components using solidworks.**
- **Implementation of ROS navigation and localization stack on agvs.**
- **Implementation of ROS perception pipeline for pick and place tasks.**
- **Simulation in solidworks to test for viability of designs.**
- **Software design and development for agv fleet management using both C++ and Python.**
- **Do design and product presentations to clients.**

Data Scientist

JKUAT-KAPPS

08/2019 – 08/2020

Tasks

- **Built a machine learning pipeline to determine whether a plant was infected.**
- **Built a recommendation engine that informed farmers of what actions to take in case of an infected plant.**

EDUCATION

Entrepreneurship

08/2021 – present

Savvy Fellowship

Mechatronics Engineering

08/2016 – 11/2019

JKUAT

High School Diploma

02/2012 – 11/2015

Friends School kamusinga

ACHIEVEMENTS

i. Winner, JKUAT-KAPS Hackathon 2019

Was part of a team of five university students that developed an android application that enabled farmers scan their crops for diseases then gave them suggestions on what pesticides or insecticides to use in case of an infection. The app also suggested local stores where the farmer could do the purchases.

Lessons learnt

Team work

Pitching startup ideas

Problem solving

TECHNICAL SKILLS

Robotics design, simulation and development – Robot Operating System (ROS)

Robot representation as URDF and SDF, simulation with Gazebo, display with RViz, programming for ROS with C++ and Python. Sensor integration, ROS navigation and perception stack

3D Modelling - Solidworks

Working with sketching tools, surfacing tools, weldment and structures tools, solidworks motion, simulation tools as well as technical communication. Solidworks CAM and solidworks Costing.

Electrical and electronics design – Altium Designer

Starting with block diagrams, symbol and footprint creation, schematic creation, pcb layout, layer creation and management, library creation management, circuit simulation, manufacturing output, documentation generation.

Software design and development – Python and C++

Software design with Objected Oriented Principles and UML; DevOps-docker, docker-compose, github actions; Data Structures and Algorithms;

Data Analytics and Machine learning – Python, Anaconda

Problem specification, data collection, data preparation, data analysis, data modelling, presentation of findings, model implementation and maintainance

Workshop Processes and Practices

Machining on the lathe, TIG welding, soldering.

PRESENTATION SKILLS

Microsoft Suite - Excel, Word, Powerpoint
Bussiness presentations

Adobe Suite - Premiere Pro, Indesign, Photoshop, After Effects
Creating marketting materials, from brochures, publicatons, videos and social media posts

PROJECTS

Oryks Bot

A robotics kit for a differential drive robot. To be used in teaching mobile robotics using the Robot Operating System. Consists of off-the-shelf components and easily 3D-printed parts and is easy to assemble.

Oryks Rover

An open-source mars rover that serves as a strating point for university students who want to participate in the European Rover Challenge.

Oryks Dog

An open source DIY four legged robot that is to be used to teach legged robot motion.