Adeleke Olorunnisola

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Skills and Expertise

Languages: Python, C/C++, Arduino, SQL

Technologies & Tools: TensorFlow, PyTorch, OpenAI Gym, ROS2, Docker, Git (version control), API development, Machine Learning, Deep Learning, Computer vision, Reinforcement Learning, Gazebo, Control system and SolidWorks

Soft Skills: Analytical mindset, troubleshooting skills, agile development methodologies, strategic thinking and problem-solving mindset

Education

Federal University of Technology, Akure *Jan 2014 – Nov 2018*
Bachelors in Mechanical Engineering GPA: 3.89/5.0

Federal University of Technology, Akure *May 2023 – April 2025*
Masters in Mechanical Engineering GPA: 4.51/5.0

Experience

Robotics Engineer *Freelance*
Freelance *Mar 2021 – Present*

- Developed and deployed AI-driven robotic solutions for automation, leveraging machine learning and motion planning techniques.
- Designed and implemented ROS-based robotic control systems for autonomous navigation and manipulation.

Process Engineer *Ibadan, Nigeria*
Extreme Manufacturing Nigeria Limited *Jan 2022 – Dec 2022*

- Achieved significant improvements in detergent production efficiency, cost reduction, and product quality through data-driven process optimization.
- Designed and implemented process changes that increased overall production efficiency.
- Supervised operators and production personnel to ensure consistent high-quality production of detergents, liquid wash, and soap.

Engineering Intern *Ibadan, Nigeria*
Henkel *Apr 2019 – Dec 2019*

- Coordinated with vendors to ensure successful execution of quality projects, maintaining high standards and adherence to specifications.
- Led plumbing maintenance initiatives, collaborating with technicians to ensure system reliability and performance.
- Conducted comprehensive risk analyses for all projects to enhance safety and mitigate potential hazards.

Operations Intern *Ibadan, Nigeria*
British American Tobacco Nigeria *Jun 2017 – Dec 2017*

- Applied lean manufacturing principles to optimize production processes, increasing efficiency and reducing waste.
- Implemented targeted process changes that reduced production costs and enhanced product quality, streamlining operations.

Selected Certifications

SolidWorks Design Certifications – 2 Courses *Dassault Systèmes*
View Certificates *2024*

Modern Robotics Specialization – 4 Courses *Northwestern University*
View Certificates *2023*

Deep Learning Specialization – 5 Courses *DeepLearning.AI*
View Certificates *2023*

Machine Learning Specialization – 3 Courses *Stanford University*
View Certificates *2022*

Selected Projects

Containerized Object Detection Deployment with Streamlit *Github repository*

- Developed a real-time object detection system where multiple users can simultaneously analyze and annotate detected objects on a shared interface, with synchronized updates across all users.
- Tools Used: Python, Docker, Streamlit

Obstacle Avoidance and Motion Planning Algorithms: A, PRM, and RRT Implementations *Github repository*

- Developed a motion planning framework implementing A*, PRM, and RRT algorithms for obstacle avoidance, enabling efficient pathfinding and real-time navigation in dynamic environments.
- Tools Used: Python

Facial Landmark Detection and Visualization Using Face Mesh *Github repository*

- Developed a Face Mesh-based facial landmark detection system that identifies and visualizes key points on a face from images or video inputs
- Tools Used: Python

Simulateneous Localization and Mapping of a constructed environment using turtlebot3 *Simulation video*

- Implemented a Simultaneous Localization and Mapping (SLAM) system using TurtleBot3 to autonomously map a constructed environment.
- Tools Used: Python, ROS, C/C++

Meta-Heuristic Optimization Algorithms Based PID Controller Design For A 5-DOF Robotic Manipulator *Webpage link*

- Optimized a PID controller for a 5-DOF robotic manipulator using meta-heuristic algorithms to enhance stability, precision, and dynamic response.
- Tools Used: Matlab, Arduino

Selected Publications

Model Predictive Control for Advanced Path Tracking and Stabilization in Autonomous Mobile Robots Using Linearized Kinematic and Dynamic Models Oct. 2025

Adeleke Olorunnisola, et., al

Pdf Link

Development and Performance Evaluation of a Quadcopter Dec. 2020

Adeleke Olorunnisola, et., al

Pdf Link