Olorunnisola Oyeyemi ADELEKE

Email| GitHub | Google Scholar | Academia | Research Gate | LinkedIn | ORCID | WebOfScience
Email: adelekeoo@futa.edu.ng | Telephone: +2348143879386

RESEARCH INTEREST

Robot control and dynamics, Modelling & Simulation, Mechanics, Bio-mechanics, Intelligent systems, Industrial Robotics and Medical Robotics.

EDUCATION

Federal University of Technology, Akure, Nigeria [view pdf] — B.Eng. Mechanical Engineering 2018

Federal University of Technology, Akure, Nigeria (5.0/5.0) [view pdf] — M.Eng. Mechanical Engineering 2024

PUBLICATIONS

Development and Performance Evaluation of a Quadcopter

- Adeleke O.O., Ojekanmi O.O., Seidu I.A. (2021). Development And Performance Evaluation of a Quadcopter. International Journal of Advances in Engineering and Management (IJAEM), 3(12), 2395-5252. [view pdf]

Smart Manufacturing and its impact on production processes: A review

- Adeleke O.O., Olukanri R.B.(2023) Smart manufacturing and its impact on production processes: A review. International Journal of Scientific Research in Science, Engineering and Technology(IJSRSET) Print ISSN : 23951990, Online ISSN : 2394-4099, Volume 10, Issue 5, pp.57-65 [view pdf]

Meta-Heuristic Optimization algorithms based PID controller design for a 5-dof robotic manipulator

- Adeleke O.O, Prof. O.A Dahunsi Meta-Heuristics Optimization algorithm based PID controller design for a 5DOF Robotic manipulator. 2024 (Manuscript under review) [view pdf]

Optimization of Quadcopter PID gains using Genetic Algorithm and Ant Colony Optimization Algorithm

- Adeleke O.O, Prof. O.A Dahunsi Optimization of Quadcopter PID gains using Genetic Algorithm and Ant Colony Optimization Algorithm (2024) Journal of Computational Mechanics, Power System and Control. Volume 7, Issue 3 [view pdf]

Model Predictive Control for advanced path tracking and stabilization in autonomous mobile robot using linearized kinematic and dynamic models

- Adeleke O.O., Habib. H.O., Oladunjoye O.O., Leornard U.U (2024). Model Predictive Control for advanced path tracking and stabilization in autonomous mobile robot using linearized kinematic and dynamic models. International Journal of Advances in Engineering and Management (IJAEM). (Under review) [view pdf]

CERTIFICATIONS

- **SolidWorks Design Certifications – 2 courses** [View Certificates] — Dassault Systèmes 2024
- **Modern Robotics Specialization** – **4 courses** [View Certificates] — Northwestern University 2023
- **Deep Learning Specialization** – 5 **courses** [View Certificates] — Deep learningAI 2023
- **Machine learning specialization – 3 courses** [View Certificates] — Stanford University 2022
- **Scientific Writing & publishing – 5 courses** [View Certificates] - Stanford University | Springer Nature | MIPT 2022
- **Additive Manufacturing and 3D printing**– [View Certificate] — LinkedIn learning path 2022
- **Professional Soft Skills specialization** [View Certificate] — LinkedIn learning path 2022

TEACHING EXPERIENCE

AWG COMPREHENSIVE COLLEGE, IBADAN, NIGERIA. (2020 – 2021)

- **STEM Instructor**: Prepared and implemented science lesson plans that helped high school students understand and master scientific concepts.

ROBOTICS TUTOR - REMOTE (2023 - Present)

- **Tutor**: I engage scaffolding teaching techniques learned over the years to help student learn the basics of robotics systems

RESEARCH EXPERIENCE

SPRINGER (Journal of intelligent & robotic systems) 2023 – till date [Check ORCID]

- **Reviewer:** Assist in reviewing robotics and intelligent systems research paper

INDUSTRIAL EXPERIENCE

EXTREME MANUFACTURING COMPANY (2022)

- **Process Engineer**: I achieved significant improvements in production efficiency, cost reduction, and product quality. Through a comprehensive analysis of production data, I successfully designed and implemented process changes that resulted in a 10% increase in production efficiency, a 15% reduction in production costs, and a 10% increase in product quality.

HENKEL COMPANY, IBADAN, NIGERIA. (2019 – 2020)

- **Engineering Intern**: I successfully implemented design improvements, which led to a 10% reduction in product defects. Through my extensive root cause analysis on equipment failures, I was able to reduce downtime by 15%. Furthermore, I continuously improved the production processes, resulting in a noteworthy 5% reduction in manufacturing lead time.

BRITISH AMERICAN TOBACCO COMPANY, IBADAN, NIGERIA. (2017)

- **Process Engineering Intern**: By optimizing processes and identifying areas for improvement, I achieved a 5% increase in production efficiency. Through the implementation of process changes, I was able to decrease production costs by 10% while simultaneously enhancing product quality by 4%.

LEADERSHIP EXPERIENCE

- **Class Governor**: I served during my masters' program by coordinating them and engaging them in tutorials
- **Class Representative:** I served during my undergraduate program by representing them as appropriate

SOFTWARE SKILLS

- **Computer Aided Design software**: SolidWorks, AutoCAD and Sketchup
- **Programming languages**: Python, Matlab, C/C++, Arduino, JavaScript and Kotlin
- **Robotics Simulations**: CoppeliaSim, Simulink, Gazebo and ROS
- **Machine learning/Deep learning libraries**: TensorFlow, Keras, PyTorch, Pandas, NumPy, OpenCV, Scikit Image, ImageAI, PILLOW, Matplotlib, Seaborn, Pandas, Plotly, Django, Streamlit, Beautiful Soap and Scrappy.
- **Data-visualization software**: PowerBi, and Microsoft Office Packages (Word, Excel, Publisher, and PowerPoint)

PROJECTS

- Design and Implementation of motion planning algorithms on CoppeliaSim [my_code]
- SLAM [view simulation]
- Development of a Pick-and-Place Robot using Robotics Arm and Grippers
- CARLA Software Image Segmentation for Autonomous Vehicle Navigation
- TensorFlow-Keras implementation of various image segmentation models, metrics, and losses

PROFESSIONAL MEMBERSHIP

- Member, Industry 4.0, Digitization, Industrial Robotics and Smart Manufacturing (2022)
- Member, Author AID research support network (2021)
- Member, International Association of Engineers (IAENG) – Member Number: *292517* (2021)

WORKSHOPS/CONFERENCES

- **Repositioning ICT as a Major Driver for National Industrial Growth, Infrastructure Development, and Capacity Building** – Federal University of Technology, Akure. Nigeria (2018)
- **The Impact of A**.I **for Social Good** – DeepLearningAI (2022)