

FEDERAL UNIVERSITY OF TECHNOLOGY, OWERRI

DEPARTMENT OF MECHANICAL ENGINEERING

SCHOOL OF ENGINEERING AND ENGINEERING TECHNOLOGY

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Graduate Admissions

University of Telex at Dallas

800 W. Campbell Road Richardson,

Texas 75080

United States

Dear Graduate Admissions Committee,

It is with great pleasure that I write to offer a reference letter to support the PhD application of my student, Osinachi Chukwujama, at the University of Texas at Dallas. Osinachi is an outstanding student with a strong command of engineering principles, artificial intelligence, and embedded systems. He graduated with a First-Class Honours degree (CGPA of 4.56 on a 5-point scale) in 2023 from the Department of Mechanical Engineering and has since been improving his research skills.

I have noticed a series of remarkable students who have performed excellently in terms of academics and extracurricular activities, and I am pleased to say that Osinachi stands out as one of them. He has the rare gift of determination, which allows him to persist in difficult problems and learn complicated concepts. This has set him as a good example to fellow students. I am honoured to testify that this has been the case so far. During his time as a student, he took on the Director of Research position at the student level in the department. In this role, he organized workshops on Computer-Aided Design (CAD), 3D printing, and Machine Learning. This position had him collaborating with industry professionals to bring training to his fellow students. It was during this time that I first met him and was instantly impressed by his drive and determination.

I worked with Osinachi again as his supervisor on his final-year project. His project titled: "Machine Learning Modelling and Optimization of a Drone for Improved Security Surveillance," demanded both mechanical engineering and machine learning expertise. Osinachi excelled in the Machine Learning aspect, taking up the task to collect image data, label it, and train a deep learning model on it. From there, he worked to run his trained machine learning model on a local base-station computer. This project was interdisciplinary in nature, and he was able to spearhead its development and see it to completion. The implication of this project is it being used by the Nigerian military to improve their efforts in solving the country's banditry problem. This would not be possible without Osinachi's immense effort and drive. After his project, I worked with him to further develop the project and run the machine learning model on-board on a Jetson Nano. He was able to help optimize the model for fast inference on the GPUs of the Jetson Nano, thereby increasing the overall utility.