

Chukwujama Osinachi Victor

MECHANICAL ENGINEERING GRADUATE

Lagos, Nigeria | osinachi.chukwujama@gmail.com | [Personal Website](#) | [GitHub](#) | +2348105487627

RESEARCH INTERESTS

Robotics. Edge AI. Machine Learning. 3D printing, and Computer Aided Design (CAD).

EDUCATION

Mechanical Engineering, Bachelor of Engineering

(Major: Industrial and Production Engineering)

Federal University of Technology, Owerri, Nigeria (<https://www.futo.edu.ng>)

CGPA: 4.56/5.00

Imo, Nigeria

Nov 2017 – August 2023

RESEARCH EXPERIENCE

Design and Implementation of a Surveillance Drone with an Object Detection System using YoloV5

Undergraduate Final Project, Supervised by Prof. O.O. Obiukwu (Aug 2023)

MEE, FUTO

- Conducted a study on the lack of effective surveillance systems in Nigeria, identifying key gaps in current technologies
- Developed an image annotation workflow in Roboflow and a machine learning training pipeline on Google Colaboratory for training the machine learning model
- Trained a machine learning model based on the pre-trained YoloV5 model which is based on Pytorch
- Successfully integrated and configured the surveillance drone hardware with the machine-learning model
- The project was completed giving 70% accuracy in detecting masked bandits and rifles and 50% accuracy in detecting machetes
- The project is to be sold to the Nigerian government to improve the defense effort

Embedding and Optimizing Yolo Models for Object Detection on a Jetson Nano

Undergraduate Post-Defence Research, Supervised by Prof. O.O. Obiukwu (Mar 2024)

MEE, FUTO

- Performed optimization on the trained machine learning model, converting it from a PyTorch model to an Nvidia TensorRT model that utilizes the GPUs on the Jetson Nano
- Improved the training speed from 1 hour 30 minutes average to 50 minutes average, giving a 44% reduction

PUBLISHED WORKS

Quantum Computing in Artificial Intelligence: a Review of Quantum Machine Learning Algorithms

<http://dx.doi.org/10.22178/pos.117-25>

Path of Science

- This review paper analyses quantum-based machine-learning algorithms such as Quantum-Support Vector Machines (QSVM) and Quantum Neural Networks (QNN).
- The result of this analysis is a summary of the readiness of these algorithms in practical applications, as per their current limitations.

Secure and Resilient Industrial IoT Architectures for Smart Manufacturing: A Comprehensive Review

<https://doi.org/10.9734/jerr/2025/v27i61548>

Journal JERR

- This review paper analyses Industrial Internet of Things (IIoT) techniques and methods in relation to smart manufacturing. It goes over the key components, security implications, and techniques to build secure and resilient IIoT systems.
- It finally goes over open challenges and tradeoffs. Open challenges include the security risk of not using encryption to prevent latency issues, supply chain integrity, and human factors.

Clinical Applications of 3D-Printed Medical Implants

<https://doi.org/10.69613/22dn3m33>

JOPIR

- This review article analyzes 3D printed for medical applications, most especially in implants and reconstructions.
- It concludes with ethical considerations like data protection and intellectual property theft.

SKILLS

- Computer programming: proficient in Python, JavaScript, and intermediate proficiency in Go, and PHP.
- 3D design with expertise in Fusion 360 and familiarity with SOLIDWORKS
- 3D printing with high dexterity in using PLA filaments and a single prior experience in printing with ABS materials
- Robotic design of ground-wheeled robots using Arduino, Raspberry Pi, and Robot Operating System (ROS)
- Effective communication in English language
- Good teamwork from previous teams and projects

WORK EXPERIENCE

Software/DevOps Engineer.

Hotels.ng - Part-time

Lagos, Nigeria

June 2024 - Present

- Authored Continuous Integration and Continuous Deployment (CI/CD) workflows for application deployment, database migrations, and automated testing.
- Developed a highly concurrent Python/celery application for processing AI workloads in a distributed manner via a message broker communication with RabbitMQ.
- Authored new scripts for logging and log processing that increased monitoring by over 70% over manually checking for logs

Mechanical Technician Trainee.

Rite Foods - Graduate internship

Lagos, Nigeria

March 2024 - June 2024

- Carried out daily routine maintenance of baking and packaging machines to maintain a downtime of 20% or less
- Generated daily reports on maintenance activities to ensure that equipment and supplies are properly tracked
- Designed and 3D printed parts for machines that had no immediate replacement

Robotics & 3D Printing Industrial Trainee.

Generative CAD - Internship

Lagos, Nigeria

Apr 2024 – present

- Collected customer requirements and designed 3D models for additive manufacturing
- 3D printed designs using PLA and ABS materials to validate ideas
- Designed robots using the Robot Operating System (ROS) framework for path planning
- Simulated Robotics environments using Gazebo and RViz

HONOURS, AWARDS AND ACHIEVEMENTS

First Class Graduate, Mechanical Engineering Department, FUTO, 2023. Graduated in the 96th percentile in the department, emerging as the best-graduating student in the Industrial and Production Engineering option.

Petroleum Development Trust Fund (PTDF) Scholarship Recipient, 2018. Received this prestigious award for excellence in academic performance.

SELECTED TALKS/PRESENTATIONS

- **Design and Implementation of a Surveillance Drone with Object Detection System using YoloV5, Final Project Defence, Department of Mechanical Engineering, FUTO, August 2023.**

COMMUNITY SERVICE AND VOLUNTEERING

- **Microsoft Learn Student Ambassador.** Organized training and workshops on software engineering and cloud computing using Microsoft Azure and related technologies. Over 300 students were trained in such technologies and up to 50 students received cloud credits for self-exploration.

- **Director of Research, Mechanical Engineering Department, FUTO.** Organized training and workshops on 3D printing, 3D design, microcontrollers, and machine learning for students and staff of the School of Engineering with a focus on the Department of Mechanical Engineering. Over 50 students and 5 staff participated in these training sessions and improved their awareness and use of these industry 4.0 technologies.

PROFESSIONAL AFFILIATIONS

- Graduate Member, Nigerian Society of Engineers (NSE)
- Graduate Member, IEEE
- Graduate Member, SPE

EXTRACURRICULAR INTERESTS AND HOBBIES

- Technical training of students in 3D design, embedded systems, software engineering, and cloud computing
- Calisthenics for fitness
- Physics simulations in areas like force interactions

FEDERAL UNIVERSITY OF TECHNOLOGY, OWERRI.



OFFICE OF THE REGISTRAR

(Records & Statistics Unit)

P.M.B. 1526

Owerri Nigeria

STUDENT'S ACADEMIC TRANSCRIPT

Name of Student		Sex	Date of Birth		Reg. No.
CHUKWUJAMA, OSINACHI VICTOR		MALE	March 1, 2001		20171029203
Nationality		State of Origin	Date of Entry	Mode of Entry	
NIGERIAN		ANAMBRA	2017/2018	UME	
School		Department:	MECHANICAL ENGINEERING		
ENGINEERING & ENGINEERING TECHNOLOGY		Option:	INDUSTRIAL & PRODUCTION ENGINEERING		
Course Code	Title of Course	Units	Grade	Total Grade Points	Cum G.P.A.
2017/2018 HARMATTAN SEMESTER					
ENG101	Workshop Practice I	1	A	5	
BIO101	Biology for Physical Science	3	A	15	
MTH101	Elementary Mathematics I	4	A	20	
ENG103	Engineering Drawing I	1	A	5	
CHM101	General Chemistry I	4	A	20	
PHY101	General Physics I	4	A	20	
GST101	Use of English I	2	B	8	
GST103	Humanities	1	A	5	
FRN101	Introduction to French I	1	C	3	
2017/2018 RAIN SEMESTER					
CHM102	General Chemistry II	4	A	20	
ENG102	Workshop Practice II	1	A	5	
MTH102	Elementary Mathematics II	4	A	20	
ENG104	Engineering Drawing II	1	A	5	
GST102	Use of English II	2	A	10	
PHY102	General Physics II	4	A	20	
GST108	Social Science I	2	A	10	
GST110	Science, Technology & Society	1	A	5	
FRN102	Introduction to French II	1	B	4	
		41		200	4.88

GRADING SYSTEM

A - Excellent:	5 points	D - Pass:	2 points
B - Very Good:	4 points	E - Poor Pass:	1 point
C - Good:	3 points	F - Failure:	0 points
I - Incomplete	W - Withdrew	WP - Withdrew Passing	WF - Withdrew Failing

TONY NJOKU
FOR: REGISTRAR

29/6/24
DATE

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	2017/2018	41		200	
	2016/2019 HARMATTAN SEMESTER				
ENG201	Workshop Practice III	1	A	5	
CSC201	Computer and Applications I	4	A	20	
MTH203	Mathematical Methods I	3	C	9	
GST201	Social Science II	1	B	4	
ENG207	Intro. to Engineering Materials I	2	B	8	
ENG203	Engineering Drawing III	1	A	5	
STA211	Statistics	3	A	15	
ENG217	Engineer in Society	1	B	4	
ENG209	Engineering Thermodynamics I	3	A	15	
ENG213	Engineering Mechanics I	2	B	8	
	2018/2019 RAIN SEMESTER				
MTH202	Mathematical Methods II	3	A	15	
ENG208	Intro. to Engineering Materials II	2	B	8	
ENG226	Introduction to Elect./Elect. Engineering	3	A	15	
ENG206	Workshop Practice IV	1	A	5	
MEE204	Engineering Thermodynamics II	3	B	12	
ENG212	Engineering Economy	2	B	8	
MEE206	Intro. to Computer & Mechanical Engineering	3	B	12	
ENG214	Computer Programming for Eng. Application	2	A	10	
ENG224	Engineering Mechanics II	2	B	8	
		83		386	4.65

DEGREE CLASSIFICATION - (1981 - 1990)

1st Class Honours :	4.50 - 5.00	Third Class :	2.00 - 2.49
2nd Class Honours (Upper Division) :	3.50 - 4.49	Pass :	1.00 - 1.99
2nd Class Honours (Lower Division) :	2.50 - 3.49	Fail :	0.00 - 0.99

DEGREE CLASSIFICATION - (1991 - DATE)

1st Class Honours :	4.50 - 5.00	Third Class :	1.50 - 2.39
2nd Class Honours (Upper Division) :	3.50 - 4.49	Pass :	1.00 - 1.49
2nd Class Honours (Lower Division) :	2.40 - 3.49	Fail :	0.00 - 0.99

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Course Code	Title of Course	Units	Grade	Total Grade Points	Cum G.P.A.	
	2018/2019	83		386		
	2019/2020 HARMATTAN SEMESTER					
MEE305	Machine Drawing	2	B	8	STUDENTS COPY	
ENS301	Industrial Studies I	2	B	8		
SIW200	Industrial Attachment	2	A	10		
AME305	Mechanics of Machines I	3	B	12		
MEE303	Manufacturing Processes	3	A	15		
ENG305	Strength of Materials I	3	B	12		
ENG309	Fluid Mechanics I	3	A	15		
ENG307	Engineering Mathematics I	3	A	15		
ENG311	Machine Design I	2	B	8		
ENG317	Engineering Report Writing & Presentation	2	F	0		
	2019/2020 RAIN SEMESTER					
AME304	Machine Design II	2	A	10		
ENS302	Entrepreneurship Studies II	2	C	6		
AME306	Mechanics of Machines II	2	B	8		
MEE302	Dynamics of Physical Systems	3	B	12		
ENG304	Heat and Mass Transfer	4	B	16		
ENG308	Engineering Mathematics II	3	B	12		
ENG310	Fluid Mechanics II	3	B	12		
		127		565	4.45	

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	2019/2020	127		585	
	2020/2021 HARMATTAN SEMESTER				
MEE411	Machine Design III	3	A	15	
MEE401	Measurements and Instrumentation	3	B	12	
ENG405	Engineering Management & Law	2	A	10	
SIW300	Industrial Attachment	2	B	8	
IPE403	Workshop Study and Productivity	3	A	15	
IPE405	Machine Tool & Analysis & Cutting Tool Design	2	A	10	
IPE409	Gear and Cam Design & Manufacture	2	B	8	
IPE411	Manufacturing Process II	3	A	15	
	2020/2021 RAIN SEMESTER				
SIW400	Industrial Attachment	6	A	30	
		153		688	4.50

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Course Code	Title of Course	Units	Grade	Total Grade Points	Cum G.P.A.
	2020/2021	153		688	
	2021/2022 HARMATTAN SEMESTER				
MEE503	Entrepreneurship II	1	B	4	
IPE507	Manufacturing Processes III	2	A	10	
IPE503	Operations Research	3	A	15	
MEE501	Maintenance of Engineering System	2	A	10	
MEE505	Computer Aided Design & Manufacturing	3	A	15	
IPE509	Numerical Control Design Tools	3	A	15	
IPE501	Facility Design	3	A	15	
ENG317	Engineering Report Writing & Presentation	2	C	6	
	2021/2022 RAIN SEMESTER				
MEE504	Entrepreneurship III	1	A	5	
IPE502	Production Planning and Control	3	B	12	
MEE506	Control Systems Design	3	A	15	
IPE522	Quality Control Machine Tools	3	A	15	
IPE504	Tools and Die Designed	3	A	15	
MEE500	Project I & II	6	A	30	
MEE502	Maintenance of Engineering Systems	2	A	10	
		193		880	4.56

CGPA : 4.56

FIRST CLASS HONOURS

GRADING SYSTEM

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STUDENT'S COPY

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FEDERAL UNIVERSITY OF TECHNOLOGY
OWERRI

Be It Known That

Osinachi Victor Chukwujama

having satisfied the prescribed requirements has by the
authority of Senate been awarded the degree of

Bachelor of Engineering

in

Mechanical Engineering

(**Industrial and Production Engineering**)

with First Class Honours

and admitted to all the rights and privileges appertaining thereto.
In witness thereof, we have affixed hereunto our corporate seal and
proper signatures.

Given this 7th day of December, 2023



VICE-CHANCELLOR

REGISTRAR