

Jabess Omane

Passionate about robotics, AI/ML, and control systems, with a focus on solving societal challenges through innovative and sustainable technology.

Accra - Ghana
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EDUCATION

Koforidua Technical University, Koforidua — Bachelor of Technology in Mechatronics Engineering (First Class Honors)

January 2021 - September 2024

Completed a **Bachelor of Technology in Mechatronics Engineering (First Class Honors)**, gaining expertise in automation, robotics, and system integration. Studied embedded systems, control systems, global production engineering, and mechatronic actuators. Developed skills in digital electronics, fluid mechanics, industrial automation, and computer programming (C, C++). Additionally, acquired knowledge in CAD, electronics product development, digital signal processing, and mathematical simulation for optimizing complex mechatronic systems.

Actuation Systems in Mechatronics, Alison.com

COMPLETED JANUARY 2025

- Gained expertise in actuation mechanisms and their applications in mechatronic systems
- Learned selection criteria for hydraulic, pneumatic, and electrical actuators
- Developed understanding of cam, gear, and bearing mechanisms for precision movement
- Explored principles and control methods of DC, induction, synchronous, and stepper motors
- Studied various types of valves, relays, and solenoids for system control
- Examined data representation systems used in mechatronic applications

Application of Sensors in Mechatronics, Alison.com

COMPLETED JANUARY 2025

- Developed expertise in sensor principles and applications for mechatronic systems
- Learned sensor selection criteria for displacement, position, proximity, pressure, and fluid flow measurement

TECHNICAL SKILLS

Control Systems
Embedded Systems
Actuation Systems
Robotics
Kinematics & Dynamics
Sensor Fusion
Programming(C, C++,Python)
Machine Learning & AI
Computer Vision
Control Systems
CAD (Autodesk Inventor & Nastran)

SOFT SKILLS

Problem Solving
Effective Communication
Research
Teamwork and Collaboration
Agile Project Management
Adaptability
Technical Project Management
Attention to Detail
Creativity
Ethical Awareness
Teaching and Writing

- Gained knowledge of transducers and microelectromechanical devices
- Enhanced ability to implement sensors for automation and system efficiency

Diploma in Robotics, Alison.com — *Online Diploma Course in Robotics*

January 2025 - ONGOING

- Developed a foundational understanding of robotics, including its history, applications, and laws
- Gained expertise in forward and inverse kinematics for robotic animation and movement
- Studied industrial robot manipulators and their role in automation
- Learned DH algorithms and differential relations for robotic control
- Explored various types of robotic joints, links, and degrees of freedom
- Understood robot architecture and kinematic configurations
- Examined robot path planning, joint space velocity, and singularities in the Jacobian matrix
- Developed knowledge of industrial, service, medical, and entertainment robots

EXPERIENCE

Mingo Blox, Ghana — *National Service Personnel*

FEBRUARY 2025 - PRESENT

- **STEM Curriculum Development & Instruction:** Designed and developed engaging, educational STEM curricula tailored to students' needs, ensuring interactive and hands-on learning experiences. Delivered instructional sessions to teach key Robotics concepts and applications.
- **AI/ML Research & Engineering:** Conduct research in artificial intelligence and machine learning, applying innovative techniques to enhance automation and intelligent system development.
- **Hardware Prototyping & Project Development:** Assisted in designing, building, and testing hardware prototypes, contributing to the development of functional STEM projects.

Kinapharma Ghana Limited, Ghana — *National Service Personnel*

OCTOBER 2024 - DECEMBER 2024

- Operated and maintained blistering machines.
- Identified and addressed machine inefficiencies.

CERTIFICATES & LICENSES

1. Application of Sensors in Mechatronics: [LINK](#)

2. Actuation Systems in Mechatronics: [LINK](#)

3. C Programming for Embedded Applications: [LINK](#)

4. Advanced NLP with Python for Machine Learning: [LINK](#)

5. Advanced AI: Transformers for Computer Vision: [LINK](#)

6. Deep Learning: Image Recognition: [LINK](#)

7. Introduction to Deep Learning with OpenCV: [LINK](#)

8. Machine Learning with Python: Logistic Regression: [LINK](#)

9. Artificial Intelligence Foundations: Machine Learning: [LINK](#)

10. Artificial Intelligence Foundations: Neural Networks: [LINK](#)

11. Intro to Machine Learning- Kaggle Learning: [LINK](#)

12. Explore and Analyze Data with Python: [LINK](#)

13. Project Management: Technical Projects: [LINK](#)

14. Agile Project Management: [LINK](#)

15. Do well Do Good Leadership Program: [LINK](#)

16. Effective Leadership: [LINK](#)

Intern Career (Remote), India — Artificial Intelligence Intern

NOVEMBER 2023 - DECEMBER 2023

- Built and deployed machine learning models.
- Utilized Python libraries like TensorFlow and OpenCV.

Thwart Systems Automation, Ghana — Intern

NOVEMBER 2023 - DECEMBER 2023

- Worked on HVAC and building automation systems.
- Programmed PLCs to optimize HVAC system operations.

KERSL Automation, —Intern

OCTOBER 2022 - DECEMBER 2022

- Designed and optimized machines, refining CAD models.
- Assembled and troubleshoot electronic circuits.

PROJECTS

SCARA ITX Robotic Arm — 3DoF Pick and Place Manipulator with Computer Vision

- Developed a 3-DOF robotic arm with computer vision for autonomous object detection and pick-and-place operations.
- Implemented Python-based control algorithms for precise motion coordination.

Mathematical Modelling and Control System of Automated Vehicle Access System

- Designed a mathematical model for gate system dynamics and optimized performance.
- Led the development of a robust control system for an automated vehicle access gate.

Intellitap—Automated Touchless Tap Head

- Programmed a touchless tap head with range sensors for automated water flow and digital interface for real-time feedback.
- Integrated sensors, refined design, and tested to deliver an innovative, user-friendly product.

Automated Urinal System—Self cleaning urinal

- Developed a smart self-cleaning urinal system with sensors for automatic operation and ammonia odor detection.
- Engineered automated soapy water flushing and integrated interdisciplinary skills for a practical solution.

REFERENCES

1. Eng. Obed Doku
(Lecturer, KTU) :
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2. Eng. Richard Mensah
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3. Eng. George Essandoh
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LANGUAGES

English - Native Proficiency

Akan - Native Proficiency