KELLY DIANGA

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PROFESSIONAL SUMMARY

I'm a master's student with a strong interest in software development, embedded systems, automation, and innovative engineering solutions. With a Robotics and Mechatronics background that strengthened my analytical and problem-solving skills, I am developing expertise in software development, backend/frontend integration, databases, responsive design, and Agile/Scrum, while expanding knowledge in DevOps, data manipulation, and user experience to support the design of intelligent, user focused systems.

CORE COMPETENCES

- Embedded Systems & Automation: Real-time processing, sensor integration, microcontroller programming(Raspberry Pi, ESP32)
- Software Development: Full-stack development, version control(Git)
- Programming Languages: Python, Java, JavaScript, C++
- Robotics: Actuator control, PLCs, autonomous systems, robot kinematics, path planning, obstacle avoidance

EDUCATION

Master of Science in Software Engineering with Professional Placement Year   **Sep 2025 - Present**
Cardiff University, United Kingdom

- Relevant Coursework: Agile Software Development, Principles of Programming

Bachelor of Engineering(Honours) in Robotics and Mechatronics Engineering   **Oct 2020 - Jan 2025**
Swinburne University of Technology, Malaysia

- Upper Second Class(2:1), Cumulative GPA 3.29/4
- Relevant coursework: Managing Software Projects, Creating Web Applications, Professional Issues in IT, Calculus and Applications

Kenya Certificate of Secondary Education   **Feb 2015 - Nov 2018**
Kenya High School, Kenya

- Grade: A-

WORK EXPERIENCE

Stem Ambassador, Cardiff University   **October 2025 - Present**

- Engaging and inspiring 100+ students through workshops and STEM outreach activities.
- Facilitating hands-on sessions on building and programming robots using LEGO SPIKE to promote interest in engineering and technology careers.

Process Engineer, Isuzu East Africa   **Jul 2023 - Aug 2023, Feb 2025**

- Collaborated on a web-based Part Verification and Distribution system using HTML, CSS, JavaScript, and MySQL to improve traceability and data management in production workflows.
- Conducted work studies to identify process inefficiencies, contributing to new procedures that reduced operation time by 15% and enhanced workflow consistency.

Freelance Business Owner, Afroluxecrown Hair Braiding Services   **Oct 2022 - May 2025**

- Founded and operated a successful side business serving serving over 100 clients across Malaysia.
- Increased customer reach and retention by 30% through effective marketing, tailored consultations, client enquiry tracking, and efficient follow-up communication.

PROJECTS

Community Communication Broadcast System   **Nov 2025 - Dec 2025**

- Skills Applied: Spring Boot, Java, Thymeleaf, JavaScript, MySQL, Agile (Scrum), Pair Programming, Unit Testing, Git/Gitlab, Teamwork, Leadership, Organization
- Led a team to develop a full-stack web application which allows organizations to broadcast business updates to residents in real time.
- Implemented backend APIs, frontend interfaces, and database integrations to ensure a responsive and intuitive experience for both desktop and mobile users.
- Designed interactive map and information panels for businesses, enabling dynamic content display including links, promotions, and navigation between streets.

Vet Clinic Appointment System   **Oct 2025 - Oct 2025**

- Skills Applied: Java, GitLab, Object-Oriented Programming(Encapsulation, Inheritance, Polymorphism), Data Structures & Algorithms, Debugging & Testing
- Developed a command-line appointment booking application to to manage appointments, pets, owners, and veterinarians using modular OOP architecture.
- Enhanced system performance and maintainability through code refactoring, debugging and version control using GitLab.

AI-Powered Human Following Robot   **Sep 2023 - April 2024**

- Skills Applied: SolidWorks, Python, C++, Artificial Intelligence, Computer Vision, Machine Learning, Prototyping, Embedded Systems: Arduino, Raspberry Pi, ESP32, Real-Time Processing , Motor Control, Sensor Feedback Processing, Automation Logic
- Developed an autonomous robot prototype to assist elderly individuals by carrying belongings, utilizing Raspberry Pi 4 running Raspbian OS(Linux-based environment), TensorFlow Lite, and OpenCV for real-time human detection and safe navigation.
- Implemented template-matching-based distance calculation between the robot and target, achieving ~98% accuracy for precise and reliable following behavior.

ADDITIONAL INFORMATION

- Awards/Activities: Dean's List of Top Achievers (2021), Interclub Futsal Tournament Champion(2024), Lead Performer, International Culture Showcase (2023)