Christopher Sibanda

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PERSONAL STATEMENT

Dedicated student with a strong passion for robotics and intelligent systems, focused on creating impactful, real-world solutions through technology. Skilled in solving complex problems using Java, C, and C++, with hands-on experience with the RX200 robot and ROS, including the development of a navigation system in a university project. Particularly interested in coding, AI, and robotics, with a commitment to continuous skill development in a dynamic environment. Seeking opportunities to continue growing my technical expertise in a collaborative innovative environment.

EDUCATION

Maynooth University, (NUIM)   **Maynooth, Ireland**
BSc Robotics and Intelligent devices   September 2022 – Present

Expected to graduate   September 2026

PROJECT WORK

Project Title: Rubbish detection and Sorting robot Arm
- The goal of the project was to design and implement a robot arm capable of detecting and sorting various types of rubbish using AI-powered object detection.
- Trained a custom object detection model using YOLO V5 to classify rubbish types (cans, plastic, and glass) with 80–95% accuracy in live dynamic video.
- Implemented an Intel RealSense AI camera for real-time object detection and coordinate generation.
- Transmitted detected object coordinates to the RX-200 robot arm, which was programmed to pick and sort items into designated bins based on their classification.

Project Title: Ball and Beam System
- Demonstrated a simulation of the Ball and Beam System on MATLAB and Simulink, enhancing system stability analysis by 20% in course-related project.
- With the use of MATLAB and MathWorks, created a GUI through an m-file where the Ball and Beam System is simulated.

Project Title: Obstacle avoidance cart
- Developed an obstacle avoidance toy car that would detect obstacles and turn accordingly. Implementing and utilizing an ultra-sonic sensor.
- Cart would run continuously avoiding obstacles. If trapped with nowhere to turn in front it would pivot until it finds a path or has turned around.

Project Title: Blackjack on Arduino
- Created a basic game of blackjack with all its main features. Stand, hit and double down.
- Would print the score to an LED screen allowing a player to see their score and the dealers.

SKILLS

- Coding in Python, Java, C++, C.
- Proficient in Windows and Linux command line tools.
- Creating circuits on breadboards, Veroboard and Arduino.
- Strong Analytical/Critical thinking Skills.
- Proficient in using the CAD software (SolidWorks).
- Usage of algorithms and data structures.

- Problem solving and critical thinking.
- Presenting clearly and with confidence in front of a group.
- Experience in training deep learning models and ROS frameworks.
- Strong organisational skills and attention to detail.
- Skilled in planning, organise and prioritise tasks.

EMPLOYMENT

Area 51 Computers   **Roscommon, Ireland**
Technical Support Specialist   January 2019 – June 2019

- Help secure information that may have been lost or locked behind security keys.
- Install, repair and upgrade software and hardware on PCs and laptops.
- Analyse information to advise and custom build personal computers to suit the customers' requirements and specifications
- Install operating systems and applications on PCs and laptops.
- Troubleshoot to solve issues such as freezing, crashing or rebooting.

Glancy's SuperValu   **Carrick-on-Shannon, Co. Leitrim**
Shop Assistant   August 2021 – Present

- Partnered with colleagues to achieve sales goals and highlight special promotions.
- Created appealing displays to improve the customer experience.
- Collaborated with brand representatives to manage stock levels, introduce new products, and coordinate promotional displays within the designated sections.
- Delivered high-quality customer service, helping with product questions and quickly resolving any concerns.
- Tracked inventory and placed orders to maintain adequate stock levels and avoid shortages.
- Maintained a clean and organized store environment

ACHIEVEMENTS + HOBBIES

University:
- Student Representative for 2nd year of college.

Secondary School:
- Trained, coached and refereed for Volleyball.
- Played Football, Gaelic Football, Handball and Rugby
- Junior Certificate Student of the Year.
- Winner 2019 - Anti-litter Cinema Advert Competition.

Other:
- Member of Powerlifting, Muay Thai, Films and Engineering & Robotics Societies.
- Treasurer for the Muay Thai Society.
- Watching F1.

APPENDIX

Third Year Modules
Real time and Embedded Systems.   Signals and Systems.
Software Engineering.   Robotics and Automation.
Control Systems Design.   Probability and Statistics.

Second Year Modules
Algorithms and Data Structures 1 & 2.   Differential Equations and Transforms.
Operating Systems Communications & Concurrency.   Intelligent and Connected Machines in Society.
Computing for Engineers.   Object Orientated Programming.
Analogue Electronics.   System Dynamics.
Introduction to Signal Processing.   Intelligent Systems Project.

First Year Modules
Introduction to Computer Science 1 & 2.   Introduction to Systems and Controls.
Physics for Engineers 1 & 2.   Digital Systems.
Engineering Mathematics 1 & 2.   Robotics System Project.
Electronic Engineering Fundamentals.

Referees

Jaguar Land Rover, Senior Software Engineer, [Martha Taylor](mailto:) +353 86 721 5420
Glancy's SuperValu, Manager, Brian Harkin +353 83 483 2189