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Renzo Damian

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Education

University of Sheffield — Sheffield, UK
M.S. in Advanced Computer Science — *Sep 2024 – Present*
- **Concentrations**: Speech Technology & Software reengineering

Universidad Peruana de Ciencias Aplicadas (UPC) — Lima, PE
B.S. in Computer Science, GPA: 3.5/4.0 — *Jan 2018 – Jul 2023*
- **Concentrations**: Machine Learning & Computer Vision

Work Experience

Marsworks — Sheffield, UK
Software Team Lead — *Oct 2024 – Present*
- Designed and implemented an autonomous navigation pipeline (ROS2, RTAB-Map SLAM, Nav2) for the MarsWorks Scarab rover, enabling point-to-point autonomous travel and mapping capabilities
- Led a team of 6 students in ROS2 development, sensor integration (RealSense D435i), and navigation algorithms; facilitated bi-weekly collaboration with mechanical and electrical teams to ensure seamless system integration
- Engineered robust MAVROS network infrastructure for ROS2-ArduPilot integration, ensuring mission-critical reliability for real-time control and data feedback during rover operations
- Validated navigation performance in Gazebo & Isaac Sim, identifying and resolving 5+ critical control/navigation issues pre-deployment, ensuring system readiness for the Anatolian Rover Challenge

Bevertec — Lima, PE
Fullstack Java Developer — *Sep 2022 – Sep 2023*
- Built business logic features using the MVC pattern with Grails Framework with JavaScript, HTML and Groovy
- Optimized critical SQL queries using Oracle SQL Developer, achieving an estimated 50% reduction in query time
- Collaborated with design and backend teams within an Agile framework to implement and integrate new features, such as new report dashboard for foreign purchases
- Developed, tested (Postman), and debugged RESTful API endpoints using Spring Boot for user permissions and sensitive data retrieval
- Collaborated with QA using Jira tickets to ensure code quality, fix bugs and track changes on bitbucket

Projects

- **WRO 2024: Autonomous driving robot**: Programmed an Ackermann robot designed to autonomously complete a circuit and evade obstacles using computer vision, 2D Lidar, and PID control with analog sensors. Secured 2nd Place at the WRO Qualifiers (Peru) and 3rd Place in the Open Challenge (Costa Rica)
- **Dissertation Project: Driverty**: An ML-powered app detecting driver drowsiness and distraction using computer vision. Integrates PyTorch with Apple's Core ML, leveraging YOLOv8 for on-device inference. Trained on a custom dataset, deployed on an iOS device delivering real-time performance with an average of 68 fps

Involvement

- **BLK Robotics**: Co-founded and competed within a robotics club, securing notable results including 1st Place (Bipedal Robot Race) and 2nd Place (Mini Sumo) at RoboJam 2024
- **Robotek**: Coached two female students in developing autonomous navigation algorithms and programming techniques for their self-driving robot, leading them to qualify for the World Robot Olympiad finals

Honors & Awards

- **Honor Scholarship**: Awarded to the top 10% of students of each career on the 2021 - 01 semester
- **RoboJam 2024: Mini Sumo Category (Second Place)**: Built a minisumo controlled by a esp32 and custom control using a ps4 controller

Skills

Languages: Python, JavaScript, Java
Technologies: Python, ROS2, Gazebo, PyTorch, React, MySQL, Docker, Git, Linux, Jira, Postman