Ionut Ionita

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ABOUT ME

MSc Robotics student with proven ability to design, develop, and test innovative robotic solutions. Proficient in Python, ROS2 (Linux), ML, C++, Embedded C and Matlab. A notable highlight of my academic journey was the successful design and development of a proof of concept for an active space debris removal satellite as part of my bachelor's thesis. This project showcased my ability to **bring innovative ideas to life** culminating in the presentation of the results at the 'UCLAN Engineering Expo'.

EDUCATION AND TRAINING

Master of Science Robotics

The University Of Manchester | Manchester, United Kingdom [22/09/2023 – Current]

➢ **LeoRover group project (currently under development)**
• Developing and deploying a mobile robot that can **autonomously** retrieve an object from an unknown environment
• Primarily responsible for managing the **computer vision** component of the project. Implementing the model to identify and locate the target objects for collection
• The project goals were developed in partnership with Jacobs and will demonstrate the students' ability to contribute effectively to a **multidisciplinary team** environment
➢ **Student Course Representative**

Bachelor of Engineering with Honours Robotics Engineering

University of Central Lancashire | Preston, United Kingdom [19/09/2019 – 14/06/2023]

Final grade: 1st class (81.1%)

➢ **Thesis - PLANETARY DEORBITER FOR ACTIVE SPACE DEBRIS REMOVAL**
• Proposed a **novel concept** for managing space debris by deploying several station-keeping hubs into Low Earth Orbit (LEO)
• Developed a 3D-printed **autonomous** module, designed in Fusion 360, with six robotic arms controlled by an STM32F303RE microcontroller and a Raspberry Pi 4
• Implemented the YOLO real-time **object recognition** algorithm in Python to identify the target
➢ **Student Course Representative (Year 2, Year3)**

EXPERIENCE

ESA Academy's Clean Space Training Course

ESEC-Galaxia | Redu, Belgium [05/03/2024 – 08/03/2024]

• It was an honour to have been selected as one of the 30 students and a fantastic opportunity to learn from ESA experts and collaborate with fellow students passionate about a **sustainable space exploration**
• Gained valuable insights into **essential strategies** for mitigating the environmental impact across the entire lifecycle of a space mission and to minimize the production of space debris
• Engaged in **group projects** focusing on designing for zero debris and compliance with mitigation requirements

Student Ambassador-student support

University of Central Lancashire | Preston, United Kingdom [01/09/2022 – 31/01/2023]

• **Provided support** to students on a range of issues, including academic progress, personal welfare, and navigating university resources
• **Assisted** new students with general enquiries during the welcome week
• Acted as the **initial liaison** between students and university staff
• **Collaborated** with the university and administration to gather feedback and insights from students

ERASMUS - Research Experience

Institute for Space Astrophysics and Planetology (IAPS) | Rome, Italy [06/2022 – 08/2022]

• **Analysed** a sample of dynamically active star-forming regions observed with the ALMA observatory
• Developed **Python algorithms** to automatically analyse interferometric data to evaluate gas dynamics
• Performed **Gaussian-fitting routines** of emission spectra

Group Leader for Bentley's idea generation and prototyping for upcycling material waste

EASE programme, University of Central Lancashire | Preston, United Kingdom [07/10/2021 – 17/04/2022]

• **Led a team** of students in the first year of the EASE programme at UCLAN to develop a product prototype using upcycled materials
• Demonstrated leadership, creativity, and collaboration skills by **working effectively** with the team to overcome challenges and achieve the project goals
• **Inspired** Bentley and Macallan to create their own product prototype called "The Macallan Horizon"
• **Contributed** to the success of EASE, which led to £100,000 in funding to expand the programme

Subcontractor Delivery Driver

Amazon | Leyland, United Kingdom [06/11/2015 – 15/05/2022]

• Consistently met or exceeded Amazon **customers satisfaction**, delivering over 1000 packages weekly
• Worked independently and as part of a team to meet **delivery deadlines**
• Developed **excellent communication** and customer service skills
• **Team leader** October 2016 March 2017 (team of approximately 100 delivery drivers)

COMMUNICATION AND INTERPERSONAL SKILLS

Trilingual | Romanian (mother-tongue), Italian (C2) and English (C2)

Result Orientation | Demonstrated a proactive approach in developing a career plan, leveraging forward-thinking to establish clear and achievable objectives throughout my academic and professional journey

Forward Thinking | Illustrated trough my ability to conceptualise innovative solutions that could address complex challenges, as demonstrated by my proposal of a sustainable approach for space debris mitigation

Operational Efficiency | Developed through research experience during my engineering degree and the time at IAPS, optimizing processes and methodologies to achieve project objectives effectively

Fostering Cooperation | Evidenced throughout my involvement as an IET volunteer at the Lancashire Science Festival. This role provided invaluable opportunities to engage with the visitors, fellow volunteers and science professionals

Relationship Management | Fostered while developing different projects during my course such as Bentley's idea generation and product development for upcycling material waste by maintaining positive relationships with colleagues and collaborators

HONOURS AND AWARDS

• UCLAN Best Overall Performance Award for BEng Robotics Engineering 2023

• Institution of Engineering and Technology (IET) – Travel award for international travel 2022

• Erasmus+ Exchange Programme Grant 2022

• Creative Innovation Zone Award 2021-2022, University of Central Lancashire May 2022 '*"Ionut is one of life's creative thinkers. The project has shown many other facets to his skills including leadership, communication and problem solving. Ionut demonstrated a strong work ethic and is not phased by challenges that may deter others. Ionut will be an asset to any team"* On behalf of Michael Fernando, Head of School of Engineering, UCLAN'