PERSONAL STATEMENT

I am collaborative and resilient engineer with a MEng degree in Mechatronic Engineering with a strong interest in robotic systems, I am eager to implement the knowledge I have gained over my master's towards furthering the field of robotics and gaining valuable academic experience.

In addition, my experience with robotics and simulation have given me a plethora of skills and knowledge to reliably produce robust and imaginative solutions that are well prepared for the complex and intense conditions in real-life situations.

My reasoning for pursuing an academic position, is because I value research. I want to contribute to the sum of human knowledge, and I find great satisfaction in taking on new challenges, and while they may be difficult, they ultimately will help people in the future and advance the field of robotics. I'm currently looking into sustainable robotics for net zero carbon emissions. This mainly will focus on maintaining and improving energy efficiency through robotics and renewable plants.

I hope to address the big problems society faces in the future. With my skills and experience, I aspire to help others and even if not monumental, shift our future towards a bright one.

I am also interested in teaching. Providing education like my own that I experienced, and inspriing others to assist tackling the big challenges we as a species face.

EDUCATION

2021-2025   **The University of Manchester**
MEng Mechatronic Engineering, Graduated with 2:1 (Second class first division)

Modules of Note:
- **Mobile Robots and Autonomous Systems: 76 %**
  - Learnt a variety of vital robotic systems, including topics such as navigation & planning, robotic vision, state estimation, legged kinematics & gait and obstacle avoidance using MATLAB & Simulink.
- **Software for Robotics: 73 %**
  - Designed and simulated mobile robotic systems using Robot Operating System 2 Humble & Python. Implemented navigation, SLAM, obstacle avoidance and kinematics to fully simulate a wheeled robot.
- **Third Year Individual Project: 65 %**
  - Designed, modelled and simulated an inverted rotary double pendulum within MATLAB & Simulink, and then created an associated controller for said system that demonstrates the model is capable of stabilisation.
- **MEng Team Project: 72 %**
  - Performed research, literature review & design for an aerial radar system designed to scan for sub-surface crevasses. Created related material for Grant Proposals & Project Pitch. In addition, Simulated aerial drone within Ignition Gazebo & ROS 2.

WORK EXPERIENCE

07/23 – 09/23   **The University of Manchester Summer Internships:**
Teaching Materials for Signals and Systems

Created various interactive teaching materials such as live sound processing, visualisation of Laplace transforms, in person quizzes to be taken in lecture to assess student interaction, demonstrations of convolution and reviewed current lecture material and suggested improvements such as the addition of graphics to certain sections to make ideas and concepts clearer.

POSITIONS OF RESPONSIBILITY

09/24 – 06/25   **MEng Team Project: Team Manager.**

As team leader, organised and directed the team. Implementing task designation, time management, resource management & teamworking skills. Produced a testing rig for reviewing the effects changing radar frequency on an arctic crevasse model.

02/25 – 03/25 **Women in Engineering Society Workshop Lead.**

Developed & taught material covering MATLAB to a group of 30 over a series lasting three weeks, covering various MATLAB projects as examples and explaining how they were used within the course to highlight MATLAB's practical application. In addition, instructed students on how to use MATLAB & Simulink and trained others using interactive scripts to assist their learning and provide instant feedback.

09/22 – 06/23 **Embedded Systems Project Group 15: Group Secretary.**

Implemented weekly reports to highlight progress and identified key paths. Arranged team meetings for technical work. Assisted with chassis assembly, implemented motor drive control, tuned controller design parameters and organised system testing.

SKILLS

SOFTWARE & DESIGN:

Experienced with programming languages such as:

- MATLAB & Simulink.
- ROS 2.
- Python 3.
- C #.
- C ++.
- C.

Experience with various software such as:

- SolidWorks.
- Ignition Gazebo.
- GitHub.
- LabVIEW.
- Multisim.
- Altium Circuit Design.
- Arduino IDE.
- Visual Studio code.
- Blender.
- PLECS.

PRACTICAL SKILLS:

- Laser Cutting.
- 3D printing.
- PCB design.
- Stripboard Prototyping.

OTHER RELEVANT EXPERIENCE

Member of Robo-soc (University of Manchester Robotics Society).

- Attended multiple Robo-soc & other hack-a-thons.
- Came second in the 2023 battle hack-a-thon challenge.
- Actively in a bespoke project team. Simulating and verifying a cart-based double inverted pendulum.

References Available on Request.