# Tom Marsland

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## PROFILE

I am a Robotics MSc student with an undergraduate degree in Mechanical Engineering, passionate about cutting-edge technologies and their potential to significantly impact society. I am driven to explore innovative solutions at the intersection of robotics, automation, and real-world applications, combining strong technical knowledge with a commitment to creating meaningful advancements.

## EDUCATION

Mechanical Engineering | BEng

September 2022 - July 2026 | University of Bristol

- Obtained an overall mark of 68%, 2:1
- Achieved one of the highest marks in the year for the "Dynamics and control" module - 84%
- Third-year research project titled "Comparing ML to reduced order modelling for nonlinear dynamic systems"

Robotics | MSc

September 2025 - September 2026 | University of Manchester

A-levels

September 2020 -July 2022 | Cheadle Hulme School

- Chemistry A*
- Physics A*
- Maths A*
- Economics Distinction 2 (1st year only)

GCSEs

September 2019 - July 2020| Cheadle Hulme School

- 9-9 dual science
- 8 English language
- 8 English literature
- 9 History
- 9 Geography
- 8 Spanish
- 9 Maths
- 9 Religious Studies

## WORK EXPERIENCES

### Beckhoff

June 2025 - September 2025 | Intern

- Completed TwinCAT training courses: PLC, Motion Control, HMI and Object-Oriented Programming in TwinCAT.
- Built an autonomous CNC machine using TwinCAT, integrating motion control with a full custom HMI (Containing 3D visualisations via HTML/JavaScript, axis monitoring systems, EtherCAT diagnostics and more).
- Programmed a PLC system to monitor office conditions using door sensors and time-based logic for out-of-hours security.
- Contributed to XTS demonstration sequences by assisting with state machine design and editing.
- Applied TwinCAT data analytics to log and monitor energy usage.
- Designed and 3D-printed custom attachments for XTS and XPlanar systems
- Presented projects to customers, sales teams, marketing teams, and technical groups.

### Virustatic Shield

July 2022 - August 2022 | Intern

- I was tasked with conducting research for various projects, then organising and leading meetings to convey my findings with cross-functional teams, including business and scientific sides.

## EXPERIENCES

### Formula Student AI Society Member

- Collaborated with students and lecturers from the Mechanical, Software, and Electrical Engineering disciplines to contribute to the understanding and development of the integrated systems for self-driving vehicles

### Tour Guide and Open Day Assistant

- Led tours for new students, carefully planning each tour to align with their interests and staying within designated time limits.

- I helped with setting up equipment, guiding new students to the correct places and providing a supportive and welcoming environment

### Sales Manager, Young Enterprise

- As a Sales Manager in the Young Enterprise program, I played a key role in the creation and operation of our own business venture. Leading meetings and coordinating sales efforts.

### Other Projects

- Creating my own Leo-Rover (Autonomous Vehicle), for mobile manipulator tasks - In Progress
- A simulation of a robot which can track tennis balls using ROS
- I programmed a card-scanner gate system that uses sensor data to provide specific responses - Arduino C++
- Developed a wireless button-and-LED alert system enabling simple, remote communication for assistance or notifications - Arduino C++
- Research project comparing ML to reduced order modelling for nonlinear dynamic systems - Python, Pytorch, sklearn

## SKILLS

- Strong work ethic
- Discipline
- Teamwork
- Time management
- Resilience
- Endeavour