

Toby James

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Skills and Technologies

- Python.
- Linux.
- MATLAB, GNU Octave.
- C++.
- Public speaking.
- Microsoft Office, LibreOffice.
- Statistics and data analysis.
- Git, Docker.

Experience

October 2018 - : ManSEDS, Manchester, UK

Lead software developer for the Manchester Students for the Exploration and Development of Space's entry to the European Rover Challenge.

- Working in a system-level team of 12 and a software team of 3.
- Developing autonomous control software for a Mars rover.
- Developing computer vision software.
- Designing a system using technologies including ROS.
- Applying machine learning and deep neural network techniques to image recognition.

June 2018 - September 2018: European Space Agency, Madrid, Spain

3 month trainee program at the European Space Astronomy Centre, Madrid.

- Analysed attitude data from the Gaia satellite.
- Developed a simulation of micrometeoroid impacts.
- Produced a Python package.
- Developed noise filters and detection algorithms.
- Managed the git repository.
- Uploaded the package to PyPI for install using pip.

October 2015: European Space Agency, Darmstadt, Germany

Week-long traineeship at the European Space Operations Centre, Darmstadt.

- Analysed the effect of micrometeoroid impacts on the Gaia satellite.
- Presented my findings to the Gaia team.

Recognition

Each of these prizes was obtained working in a team of 2 to 4 people.

- First place overall, CovHack, March 2019.
- First place in category, GreatUniHack, November 2018.
- Best in Show, Man AHL Hackathon, April 2018.
- First place in category, HackCity, February 2018.

Languages

English:
Native

German:
Proficient

Spanish:
Proficient

French:
Basic

Romanian:
Basic

Education

2016-2020: The University of Manchester, Manchester, UK

- MPhys (Hons). First and second year grades: First class.

2009-2016: Sir William Borlase's Grammar School, Marlow, UK

- 5 A Levels: A*s in chemistry and mathematics and As in physics, further mathematics and further mathematics (additional).
- AS Level in German, and a Level 3 Extended Project Qualification on the topic of asteroid mining, both at grade A.
- 10 GCSEs at A* - A, including A*s in mathematics, chemistry, physics, French, German and English language.

Leadership Roles

2018-19: The University of Manchester, Manchester, UK

- General Secretary of the University of Manchester Physics Society.
- Lead software developer for the Manchester Students for the Exploration and Development of Space's entry to the European Rover Challenge.
- UCAS Ambassador for the School of Physics and Astronomy.
- Judge at Manchester MLH Local Hack Day 2018.

2017-18: The University of Manchester, Manchester, UK

- Mentor to 10 other students, following the SI model of student mentoring.

2015-16: Sir William Borlase's Grammar School, Marlow, UK

- Founder of societies for maths and science, leader of the Physics Society.
- STEM Prefect.

Further Experience

July 2017: Sir William Borlase's Grammar School, Marlow, UK

Telethon caller at Sir William Borlase's Grammar School, Marlow.

- Explained the fundraising drive to parents and former students.
- Conversated over the phone with parents.
- Handled confidential financial information.

September 2015 - July 2016: Pike, Smith and Kemp, Cookham, UK

Administrative assistant at estate agency firm Pike, Smith and Kemp.

- Arranged house viewings and appointments.
- Answered the company telephones and greeted customers in the office.
- Engaged directly with both customers and vendors on a regular basis.
- Handled confidential financial information.

July 2014: European Space Agency, Darmstadt, Germany

Week-long traineeship at the European Space Operations Centre, Darmstadt.

- Analysed solar activity using data from the Gaia satellite.
- Wrote a report on solar activity in April 2014.
- Presented my findings to the Gaia team.

References are available upon request.