

# Dr Jordan Hembrow

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## EDUCATION

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2018–2023 **PhD Physics**, University of Exeter

2014–2018 **MPhys Physics (First Class Honours)**, University of Exeter.

2012–2014 A Level: Physics (**A\***), Maths (**A\***), Biology (**A\***), Chemistry (**A**)

## EXPERIENCE

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2023 - Now **Software Engineer**, Numatic. Designing control, navigation and sensor integration software for the “Autonomous project”. Currently under an NDA in the R&D team.

2018-2023 **Doctoral Candidate Research Assistant**, University of Exeter, Joint theoretical-experimental exploration of plant pathology. Mathematical modelling in **MATLAB** and **C++**. Use of model fitting and model predictions to inform experimental design, accept or reject hypotheses and for grant proposals. Complex statistical analyses of large and varied datasets using **R** (*plyr*, *dplyr*) and **Python** (*pandas*, *numpy*, *scikit*). Design of open-source, novel image analysis algorithms in **MATLAB**. Data visualisation (*Tableau*, *ggplot2*), and academic report writing (*LaTeX*). Collaborative research, requiring teamwork and leadership skills, time-management, delegation, and cultivating a respectful working environment.

2021 **Data Scientist**, Meteorological Office. Lead researcher on a collaborative project investigating future global fire projections. Implemented pipelines using **Python** and **Bash** scripting to pull regularly update dataset, cleaning and reorganising data ready for analysis. Data manipulation and extraction (*sci-tools*, *numpy*, *scipy*) as well as plotting trends and predictions (*matplotlib*) in **Python**. Clearly presented findings with SMT through strong written and oral communication skills, both online and in person.

2017 **Research Assistant**, University of Exeter, *Design and development of a digital phantom breast*. Concept testing and parameter analysis in **C++** and blender. Integration and testing with novel Raman scattering simulation software to explore parameter spaces.

## ADDITIONAL SKILLS

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### Programming and Analysis:

C, C++, MATLAB (Image analysis toolbox, simulations, and plotting), R (*plyr*, *dplyr*, *rstatix*, *ggplot2*), Python (*numpy*, *pandas*, *scikit*, *scitools*, *matplotlib*, *OpenCV*), Bash, Git and GitHub, Machine Learning in Python (*PyTorch*, *OpenCV*). 2D and 3D CAD and CAM. Frequent Linux and MacOS use.

### Data Management:

Server hosting (Unraid, Nextcloud, Jellyfin media libraries), version control (Git, GitHub), organised logs of data storage (Excel, raw text, JSON).

## HOBBIES AND INTERESTS

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Climbing (lead and bouldering), Online Gaming (mainly teamwork-based games, MMO and tactical, theory crafting), Motocross, Paddleboarding, Hiking, 3D Printing, 3D Design, DIY and Server Hosting, Electronics (I want to learn about PCB design and manufacturing)