



# JACK PAINE

## MACHINE LEARNING ENGINEER

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Passionate about using my technical expertise to improve the lives of others and contribute to a better world. A highly motivated postgraduate with a strong academic background in computer science and machine learning. Extensive experience in collaborative software development.

## EXPERIENCE

### Machine Learning Research Assistant

*Paid Internship*

### INFINITY (UoN Inclusive Financial Technology Hub)

*Mar 2024 – Present*

- Developed Python packages for evaluating large language models (LLMs) and testing novel decoding strategies.
- Deployed LLMs on high-performance compute clusters.

Git / Python / PyTorch / Linux / Slurm / HuggingFace

### Educational Software Developer

*Paid Internship*

### Sir Peter Mansfield Imaging Centre

*Jan 2024 – Jul 2024*

- Full-stack development of an open-source MRI simulator program,<sup>1</sup> designed to help children learn about MRI scans.
- Worked closely with supervisor to iteratively design and develop software.

Python / SciPy / OpenCV / Tkinter

### Front-end Developer and Web Support

*Paid Internship*

### Torchbox

*Nov 2019 – Mar 2020*

- Front-end development for Wagtail, an open-source content management system.
- Provided customer support for international clients (including Carnegie Mellon University) via video and email.
- Worked with UX designers to implement a menu page for the University of Oxford website.
- Advised and installed hardware for video conferencing spaces.

Git / HTML / JavaScript / jQuery / CSS / Sass

## EDUCATION

### Machine Learning in Science MSc

*Distinction (Expected; reference available on request)*

### University of Nottingham

*Sep 2023 – Sep 2024*

Advanced topics including neural computation, computer vision, reinforcement learning and language processing, with a strong focus on group/pair work and the scientific applications of machine learning.

Dissertation Topic: *Optimising Neural Text Generation via Biased Trajectory Sampling*

### Computer Science and Artificial Intelligence BSc (Hons)

*Second Class, Upper Division*

### Loughborough University

*Sep 2020 – Sep 2023*

Covered the theoretical foundations of CS, such as mathematical logic, graph theory and complexity analysis. Hands-on practical experience with software development, mobile app design, cloud computing, and cybersecurity.

Dissertation Topic: *Estimating Age and Gender from Facial Images Using Deep Neural Networks*

## NOTABLE PROJECTS

- Ceri Launcher:** Android launcher developed with Flutter. Featured in Android Authority's *Android Apps Weekly*.<sup>2</sup> Accumulated 250,000+ installs before sale to 3rd-party.
- GPTyper:** Real-time, context-driven note-taking web app using Node.js and OpenAI's API.<sup>3</sup>
- PicarSim:** Modular 2D driving simulator, used to curate synthetic data for training a miniature self-driving car (MLiS Project, University of Nottingham, 2024).

## SKILLS AND PROFICIENCIES

- Proficient in multiple programming languages including Python, Java, and C++, with 10+ years of experience
- Proven ability to collaborate effectively with cross-functional teams, including designers and project leaders for successful outcomes
- Strong communication skills honed through diverse internship experiences and many collaborative university projects

<sup>1</sup> <https://github.com/LauraBortolotti/Inflatable-MRI-software/>

<sup>2</sup> <https://www.androidauthority.com/android-apps-weekly-275-2-1010731/>

<sup>3</sup> <https://jckpn.com/gptyper/>

OTHER REFERENCES AVAILABLE ON REQUEST.