

# Michael Hodgins

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## Education

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| <b>Imperial College London</b>   | <b>London, UK</b>       |
| <i>Master of Science: Computing (Artificial Intelligence and Machine Learning)</i>   | <i>2024 - 2025</i>      |
| <ul style="list-style-type: none"><li>▪ <i>Dissertation:</i> Using GNNs and LLMs to Efficiently Generate a Fact Database (IAEA Partnership).</li><li>▪ <i>ML Techniques:</i> VAE, GAN, Diffusion, Transformers, RNN, GNN, GCN, GMM-EM, RL and more.</li></ul>  |                         |
| <b>McGill University</b>   | <b>Montreal, Canada</b> |
| <i>Bachelor of Science: Physics Major, Computer Science Minor, Music Technology Minor</i>  | <i>2019 - 2023</i>      |
| <ul style="list-style-type: none"><li>▪ <i>CGPA:</i> 3.95/4.00 - Graduated with Distinction (top 25% of students in faculty).</li><li>▪ <i>Awards:</i> 2023 T I Gurman Prize in Physics (awarded to one student), 2022 Wing Hing Chan Scholar and Dean's Honour List (top 10% of students in faculty) for 2 years.</li></ul> |                         |

## Projects

### **HTML fact-extraction: International Atomic Energy Agency & Imperial College London** | Pytorch, GNNs, HuggingFace

- Researched and designed a pipeline combining BERT-based models and graph transformers to model HTML node relationships for the IAEA.
- Outperformed state-of-the-art GraphScholarBERT by raising F1 score from 0.75 to 0.85 on the movie section of the SWDE dataset, enabling safe and explainable extraction of facts from webpages.

### **Alert system: Flagging Acute Kidney Injury (AKI) for NHS ER** | Docker, Kubernetes, Python, NNs, Git

- Collaborated in a team of 4 to build a Docker/Kubernetes-based real-time AKI alerting system, cutting ER diagnosis times from minutes to under a second.
- Increased predictive performance by improving on the NHS' 73% accuracy baseline to 95%.
- Defined product requirements, balanced technical feasibility with healthcare impact, and ensured seamless integration in preparation for hospital deployment.

## Experience

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|---|---------------------------------|
| <b>Info Protect</b>   | <b>London, UK</b>               |
| <i>Founder   GCP, Docker, Playwright, Python, Agentic LLMs, Git</i>   | <i>September 2025 - Present</i> |
| <ul style="list-style-type: none"><li>▪ Engineering a scalable agentic LLM system on GCP for end-to-end automated IP-infringement monitoring.</li><li>▪ Enacting a subscription-based service, cutting an organisation's manual review hours and costs.</li><li>▪ Implementing safety-aligned agent behaviours, including automated response-checking and prompt-level risk controls, ensuring LLM decisions remained reliable during IP-infringement investigations.</li></ul> |                                 |

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| <b>Greenback Recycling Technologies</b>   | <b>London, UK</b>                |
| <i>Full Stack Developer   Azure, Azure DevOps, Selenium, xUnit, Gherkin, C#, JS, Grafana, HTML/CSS</i>  | <i>August 2023 - August 2024</i> |
| <ul style="list-style-type: none"><li>▪ Worked within an Agile SCRUM team developing the e2V Circularity Platform in .NET.</li><li>▪ Collaborated with the CEO to create a blockchain demo of our product for business partners and clients.</li><li>▪ Led testing efforts, implementing 350+ automated UI tests (BDD) and cutting production bugs by 80%.</li><li>▪ Led the data visualisation team to integrate Grafana, producing 5+ client friendly dashboards fed by APIs.</li></ul> |                                  |

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|---|---------------------------------------|
| <b>McGill University</b>  | <b>Montreal, Canada</b>               |
| <i>Mammography Undergraduate Researcher   Python, EGSnrc, Linux, Git</i>  | <i>September 2022 - December 2022</i> |
| <ul style="list-style-type: none"><li>▪ Virtually reconstructed PMMA cubes from mammography scans within the EGSnrc software.</li><li>▪ Ran over 300 mammography simulations on the virtual objects using EGScbct.</li><li>▪ Applied a scatter correction algorithm to reduce the contrast-to-noise ratio of a scan by 13%.</li></ul> |                                       |

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|---|--------------------------------|
| <b>Ginger Scooters</b>  | <b>London, UK</b>              |
| <i>Data Analyst Internship   Python, Excel</i>  | <i>June 2022 - August 2022</i> |
| <ul style="list-style-type: none"><li>▪ Analysed 30,000+ trips, producing usage reports and financial charts for senior stakeholders.</li><li>▪ Developed a scooter placement model, reducing idle scooter time by 9% during peak hours.</li><li>▪ Collaborated with businesses to launch the UK's first e-scooter trial, gaining 7,000+ users in three months.</li></ul> |                                |

## Skills

**Software/Web Development:** Design patterns and principles, Python, Docker, Kubernetes, JavaScript, Git, Linux, Azure, Selenium, xUnit, Gherkin, C#, HTML/CSS.

**Data Science:** Bayesian statistics, MCMC, Decision Trees, Regression, Clustering, Grafana.

**Python Libraries:** PyTorch, Scikit-learn, Numpy, Matplotlib, Pandas, emcee.

**Interests:** Recreational skydiving, Holiday vlogger, RYA Day Skipper Licence, Piano prodigy (self-proclaimed).