

Edward Stevinson

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Professional Experience

Safe Intelligence - Research Engineer

Mar 2023 -

- Developing neural network verification and certified training solutions to increase safety and trust in AI. The role focused on performing and productionising research that ensures neural networks behave as expected under input perturbations and adversarial attacks.

Iris - Research Scientist Intern

Jul 2022 - Oct 2022

- Research focused on leveraging knowledge graphs to update word embeddings in the scientific domain concluding with presenting our paper at an AACL workshop on information extraction.

Napo - Senior Software Engineer

Apr 2022 - Sep 2022

- Contract python backend developer for the fast growing pet insurance startup. As a member of the growth team, grew the customer base from 1k to 10k over six months.

Upside Ltd - Lead Data Scientist

Nov 2020 - Feb 2022

- A workflow analytics platform that helps empower teams by surfacing key metrics and highlighting trends, giving software teams more autonomy and flexibility. My work included creating:
 - The Python analytics engine calculates the metrics that underpin the platform.
 - Data science pipelines built in Dagster that consume data from the analytics engine and produces the models used by the platform.
 - The analytics API used to power customer-facing analytics visualisations using Cube.

Eigen Technologies - Solutions Engineer

Jun 2019 – Nov 2020

- A research-led artificial intelligence company that automates the extraction and classification of information from documents, specialising in small training sets.
- Developed a tool for tokenizing clauses within contract documents. A model was then trained using these sections to produce a hierarchical representation of the document.
- Productionised this tool for a large client using Airflow as an orchestration mechanism to assist the sectioning and extraction of large volumes of documents.
- Built a system to manage the company's ML lifecycle to make model development less costly, achieved by using a custom setup comprised of Pachyderm, MLFlow, Cookiecutter and AWS.

IBM - Software Developer

Jun 2017 – Jan 2019

- Java developer for IBM's i2 brand that produces investigative analysis software for law enforcement and intelligence agencies worldwide.
- As a server-side developer, I was part of a team that built a web app version of an industry leading desktop application, working of the graph data model.

Le Wagon (2017)

- Developer bootcamp using a Ruby, JavaScript, CSS and html stack.

Work experience:

3Space (2015), UBS AG (2012), Royal Bank of Scotland plc (2010), Southampton University (2009), Atkins Oil & Gas (2008)

Education

Imperial College London

2022- Imperial-X PhD scholarship in Safe AI researching the verification and repair of neural networks under the supervision of Professor Alessio Lomuscio

University of Edinburgh.**Artificial Intelligence (MSc) - 1. Distinction**

2015-2016 Machine learning specialism with a focus on multi-agent systems, game theory and theory of mind.

Trinity College, Oxford.**Engineering, Economics and Management (MEng) - 2.1**

2011-2015 Specialised in machine learning, robotics and algorithmic game theory.

Dulwich College, London.

2006-2011 A-levels: 4 A*; GCSE: 11 A*, 1 A

Technical Skills

- 7+ years professional coding experience.
- 5+ years professional machine learning experience, predominantly PyTorch.
- Experience deploying solutions using Docker, Airflow and Dagster.
- Utilise data science best practices and industry-standard tools such as Weights & Biases, Cookiecutter, JupyterLab, MLFlow, Kafka and Pachyderm.
- Maintain strict development best practices surrounding testing, versioning, and Agile.
- Strong mathematical background with modules covering reinforcement learning, supervised & unsupervised probabilistic modelling, neural networks, sampling and graph theory.
- Experience in web development using Java, Django, Flask and Rails frameworks.
- A keen interest in novel projects. From founding Upside, back through IBM patent submission groups, to the 2010 HSBC Young Enterprise Scheme - all have involved novel products.
- Strong writing skills built upon in my management studies, dissertations and grant proposals.

Teaching

- Deep Learning. T.A., Imperial College London, 2023.
- Natural language processing. T.A., Imperial College London, 2023.
- Demystifying machine learning. T.A., Imperial College London, 2023.
- Codebar programming mentor, 2020-2022.

Publications

Hoelscher-Obermaler, J, and **Stevinson, E**, 2022, Leveraging knowledge graphs to update scientific word embeddings using latent semantic imputation, Workshop on Information Extraction from Scientific Publications at AACL-IJCNLP 2022

Projects

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| 2023 | AI Safety Camp Drafting high-risk policy proposals for the EU Safety Act as part of AISC8. |
| 2020 | Forfit Developed the backend for a challenge-based fitness app using Django. |
| 2019 | AnimalAI Submission that used mlagents-learn to train an agent in a number of animal cognition tasks in a Unity environment using reinforcement learning methods. |
| 2019 | Credible Choice Developed the API in Go for a real-time, accurate register of Brexit views to allow UK citizens to express their opinions and raise money for charity. |
| 2018 | Towards Fair AI: tackling bias in predictive probabilistic models Essay submission for GeneralAI's 'mitigating the risks of the AI race' competition. |
| 2017 | Unpolarise Developed an app to reduce the echo chamber effect by summarising the news you consume and challenging your newsfeed bias with recommendations outside your conversational sphere. |
| 2016 | Utilising Policy Types to Achieve Effective Ad Hoc Coordination Research dissertation that involved building an autonomous agent able to maximise payoff in multi agent systems with no mechanisms for prior coordination. |
| 2015 | Experiments in Creating Social Value: Exploration of the Meanwhile Use Industry Research dissertation on the use of meanwhile leases to turn empty commercial property into a solution to tackle urban decline and increase community output. |