OSCAR MOXON

 MrMoxon | oscar@oscarmoxon.com | Oscar Moxon | +44 7780 447951 | Website

EDUCATION

2023 – Present	MSc. in Artificial Intelligence, **King's College London**, UK	(1:1)
	• Modules: *Pattern Recognition and Deep Learning, Data Mining, Agents and Multi-Agent Systems, AI Planning, Computer Vision, Optimisation Methods, Machine Learning*	
2020 – 2023	BSc. in Economics and Management Sciences, **University of Southampton**, UK	First Class 1:1
	Recipient of Dean's Award 2022 & 2023 for Outstanding Attainment, mentioned in Graduate Honours	
	• Modules: *Applied Macroeconomics, Risk Management, Industrial Economics, International Trade, Development Economics, Mathematics for Economics*	

ACHIEVEMENTS

Global Top 10 Portfolio (of 980 teams), Bloomberg Trading Challenge (BTC)	*Fall 2022*
(x2) Deans Award for Outstanding Attainment	*Academic Yr. 2020 - 2023*
StabilityAI Researcher Sponsorship – CogX Conference	*Fall 2023*
10x Downing Street AI Hackathon: Winner	*Spring 2024*
3-Day-Startup, Barclays Eagle Labs: Winner	*2021 & 2022*
ECSS Pico Hackathon: Overall Winner	*Summer 2022*
Anthropic Hackathon: Nominated 2023	*Winter 2023*

PROFESSIONAL EXPERIENCE

Software Engineer, **Bselected,** London — *May 2023 – Present*
- Developing human-on-loop software for automated CV processing and deployed full-stack app through Azure Cloud.
- Enabled 5-10x reduction in labour required to process a CV, with a 20% quality improvement using LLM tooling.

Innovative Technology Intern, **BAE Systems**, London — *Easter 2023*
- Researched internal systems and developed proposal for centralised data infrastructure to improve decision making latency.

Research Student, **QuantX,** Southampton — *May – Nov 2022*
- Automated manual intraday trading through volatility analysis. Developed a program to rank indicator performance on time-series data and generate heatmaps for promising strategies. Culminated in Bloomberg Challenge Top 10 finish.

Summer Intern, **Level39 Accelerator**, London — *Summer 2022*
- Involved in onboarding investors and startups. Shadowed data scientists in early-stage AI ventures, learning to implement recommenders with PyTorch. Organized discussions with founders in the fintech incubator. Managed invoicing and rent accounts.

Summer Placement, **Canary Wharf Group**, London — *Summer 2018 & 2022*
- Worked under board of directors incl. Head Architect and President Sir Iacobescu. Performed legal skyscraper "break-ins" to test security measures with Estate CyberSecurity Team. Produced reports for CFO on M&A and contributed to architectural projects.

RESEARCH

"Multi-Agent Debate Simulation," **Research Thesis**
Advisor – Dr. Yulan He (Turing Institute)
- Developing a multi-agent language system to augment the capability of collective agent swarms.
- Exploring the limitations of language agents to promote novel scientific research and inquiry argumentation dialogues.

O. J. Moxon, "*The Threat of Automation: An Economic Perspective," Dissertation Literature Review, Mar 16, 2023*. [Online].
- Performed an assessment of methods of predicting economic impact of Machine Learning on Full Automation of Labour.
- Proposed a general model for evaluating 'risk of automation' to furnish policymakers with more precise tools for navigating the capital benefits of technological change, ensuring equitable and effective redistribution strategies. 87%.

SKILLS

Programming	**Fluency**: Python **Familiarity**: C++, JavaScript, HTML, CSS, SQL, STATA, Ruby, Rust
Tools	Git, LaTeX, Scikit-Learn, Matplotlib, Pandas, NumPy, fastAI, PyTorch, Keras, MATLAB, OpenCV, XGBoost, Kaggle, TensorBoard, Hugging Face Transformers, Weka, Jekyll, Svelte, Docker, Flask, React
Mathematics	Statistics, Calculus, Linear Algebra, Game Theory, Coding Theory, Statistical Learning, Optimisation Methods
Algorithmics	Various Search and Ranking Strategies (Greedy, Heuristic, Genetic Algorithms, A* and WA* Search, Recommenders). Learning methods (SVM, Random Forest, Classification, Regression, Clustering, PCA, Boosting, Eval and Validate).
Models	Transformer Models, Generative Adversarial Networks, Policy Iteration and Q-Learning, RNNs, CNNs.

PROJECTS

No°10 Downing Street Generative AI Suite (MiDAS)
Apr 2024
- Employed state-of-the-art embeddings developed in the natural language domain and adapted it for search among government correspondence. Automated triaging using semantic analysis and long-context reasoning sytems.
- Built out interface using full-stack skills, presented and won the big to present at 10 Downing Street to ministers.

Q-Learning and Policy RL Agent
Dec 23 – Feb 24
- Using Model-Free approaches with Q-learning, and Policy Iteration and Bayesian Optimisation.
- Very high performance and accuracy; achieved 'Legendary' class on relevant benchmarks.

WebVoyager Agent
Feb 2024
- Paper implementation and augmentation, using langchain to autonomously navigates the web like a human, performing tasks without specific APIs. Uses visual cues and intelligent decisions for web scraping, information retrieval and documentation.

High Performance Visual Classification and Segmentation for Text
Nov 2023
- Edge detection and image segmentation techniques. Achieved human-level performance with naïve methods on small dataset.
- Used batch normalisation, dropout, softmax activation, whitening.

Data Extraction (WOLLO)
Nov 22 – Jun 23
- Trained a learning algorithm using layout data inputs to process email data and reduce the use of non-recyclable paper receipts, before switching to a transformer-based visual processing stack.
- Building the backend AI for a mobile platform that classified user receipt data and offers budgeting and profit-sharing features for users. Involved designing, building, and presenting the Wollo application.
- Member of the 2023 FutureWorlds Cohort and a winner of the 2022 Barclays Eagle Labs Startup Competition, with the mission to democratise profit from users' online footprints.

Trading Algorithm
Nov 22
- Involved in research project focused using fundamental analysis to develop a high-performance, well hedged portfolio that generated returns of 18% during a month-long period buying security corrections.
- Developed a program to rank indicator performance on time series data.
- Team placed in the top 10 worldwide (and top 5 in Europe) against 980 university teams worldwide.

Diabolical Trumps
Aug 21
- Designed and conceptualised game of cards. Crowdfunded 4-figure seed (Kickstarter), manufactured game in Italy. Sold globally.

OTHER QUALIFICATIONS

Beechen Cliff School and Sixth Form, Bath
Sep 13 – Jul 19
- **A Levels**: Economics (**A***), Physics (**A**), Mathematics (**A**), EPQ on *'Disrupting Monopolies'* (**A***)
- **GCSEs**: **9** (**A - A*/9**) and **Distinction*** for HPQ on *'Graphical Storytelling'*.

Agent-Based Modelling in Finance, **King's College London**, 2024 [Surveyed]
Foundations of Machine Learning, **Southampton University**, 2023 [Surveyed]
Deep Learning Series, **UCL X DeepMind**, 2022
Bloomberg Market Concepts, **Bloomberg**, 2021
Mathematics for Machine Learning, **Coursera**, 2021

Interests: Have received 1.9m reads on my answers on Quora.com, most notably about figures such as Elon Musk and Renzo Piano. Publishing essays at https://oscarmoxon.com. Also published winner of a short story competition. Enjoy triathlons, hockey, and squash.