

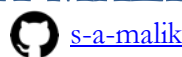
SHRESHTH MALIK



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EDUCATION

Magdalen College, University of Oxford Oxford, UK	2021 – 2025
<ul style="list-style-type: none"> • D.Phil. Autonomous and Intelligent Machines and Systems CDT (Machine Learning) <ul style="list-style-type: none"> ◦ Supervised by Yarin Gal and Stephen Roberts. 	
University College London (UCL) London, UK	2020 – 2021
<ul style="list-style-type: none"> • M.Sc. Machine Learning <ul style="list-style-type: none"> ◦ Distinction (87%, Dean's List). Thesis: The Practical Challenges of Deep Active Learning. 	
St. John's College, University of Cambridge Cambridge, UK	2016 – 2020
<ul style="list-style-type: none"> • M.Sci. & B.A. Natural Sciences Tripos – Physics <ul style="list-style-type: none"> ◦ First Class (Top 8%). Thesis: Predicting the Outcomes of Material Syntheses with Deep Learning. 	
Nagoya University Nagoya, Japan	2017
<ul style="list-style-type: none"> • Summer Exchange – <i>fully funded, selected based on academic merit.</i> 	

PUBLICATIONS & PREPRINTS [[Google Scholar](#)]

<ul style="list-style-type: none"> • Shreshth A. Malik*, Nora L. Eisner, Chris J. Lintott, and Yarin Gal. “Discovering Long-period Exoplanets using Deep Learning with Citizen Science Labels”. <i>NeurIPS 2022: Machine Learning and the Physical Sciences Workshop</i>. [Arxiv] 	Nov 2022
<ul style="list-style-type: none"> • Shreshth A. Malik*, Matthew T. Jackson*, Michael T. Matthews, and Yousuf Mohamed-Ahmed. “Multi-modal Fusion by Meta-Initialisation”, <i>FARSCOPE Robotics Conference 2022</i> Bristol, UK. Best Poster Award. [Arxiv] 	Jun 2022
<ul style="list-style-type: none"> • Shreshth A. Malik*, Rhys E. A. Goodall, and Alpha A. Lee. “Predicting the Outcomes of Material Syntheses with Deep Learning”. <i>Chemistry of Materials</i> 2021 33 (2), 616-624. [Paper] 	Jan 2021

SELECTED RESEARCH PROJECTS

Batch Active Learning and Non-stationary Reward Functions in GFlowNets (Ongoing)	2022
<ul style="list-style-type: none"> • Improving acquisition strategies for active learning by training GFlowNets to sample highly informative batches of data points. • Empirically (and then theoretically) investigating transfer of GFlowNets when trained on non-stationary reward functions, as seen in e.g. active learning settings. • Collaboration with MILA. 	
Causal Perspectives on Multi-Agent Reinforcement Learning (Ongoing)	2022
<ul style="list-style-type: none"> • Analysing popular MARL algorithms from a causal incentive framing to better understand and predict training dynamics/behaviour, with the goal of developing safer, cooperative RL agents. • Open-source contributions to PyCID package for analysing multi-agent causal games. • Supervisors: Jakob Foerster (Oxford), Tom Everitt (Deepmind). 	
Discovering Long-Period Exoplanets using Deep Learning with Citizen Science Labels	2022
<ul style="list-style-type: none"> • Trained a 1-D CNN to identify long-period exoplanets from TESS light curves, using confidence-weighted volunteer labels as primary training signal. Resulting model enables recovery of planets missed by traditional automated algorithms. Model to be integrated into the citizen science project workflow. • Supervisors: Yarin Gal (Oxford), Chris Lintott (Oxford). 	
Investigating the Practical Challenges of Deep Active Learning	2021
<ul style="list-style-type: none"> • Investigated the transferability of actively learnt datasets to train subsequent models (different model classes and hyperparameters). Further investigated the effect of class imbalance in the pool dataset. • Developed an open-source benchmarking suite for evaluating active learning for text classification. • Supervisor: David Barber (UCL). In collaboration with Humanloop (Raza Habib and Peter Hayes). 	
Predicting the Outcomes of Material Syntheses with Deep Learning	2020
<ul style="list-style-type: none"> • Developed an uncertainty-calibrated graph neural network model for inorganic reaction representation learning and prediction. • Supervisor: Alpha Lee (Cambridge). 	

ACADEMIC AWARDS & FUNDING

D.Phil. Studentship EPSRC, UK (Grant No: EP/S024050/1)	2021 – 2025
Dean's List (top 5%) University College London, London, UK	2021
United Steel Companies Scholarship St. John's College, Cambridge, UK	2017, 2018, 2019, 2020
Summer Undergraduate Research Fellowship (CamsURF) Caltech, Pasadena, CA, USA	2019
Wright Prize St. John's College, Cambridge, UK	2017
Gold Award, Cambridge Chemistry Challenge (top 1% nationally) Cambridge, UK	2015

PROFESSIONAL EXPERIENCE

Data Science Fellow, Backed VC London, UK	Jun 2021 – Feb 2022
<ul style="list-style-type: none">Conceptualised and built an automated tool to identify high-potential new ventures from across the web.Also participated in deal origination, first meetings with founders, and deal review.	
Machine Learning Intern, techspert.io Cambridge, UK	Jun 2020 – Sept 2020
<ul style="list-style-type: none">Research-driven project developing methods for tagging biomedical texts with defined medical categories.Developed, trained, and deployed an explainable deep learning model (TensorFlow, AWS, Docker).	
Summer Analyst, Baringa Partners LLP London, UK	Jul 2018 – Aug 2018
<ul style="list-style-type: none">Management consulting project for a time-sensitive trade financing deal at an investment bank.Worked across the full cross-section of the bank. Deliverables used by CXO steering committee.	

TEACHING & COMMUNITY

Reviewer, NeurIPS 2022 New Orleans, USA / Remote	Jul 2022
An Interactive Intro. To ML, Royal Institution Masterclass Dept. of CS, Oxford, UK	Jul 2022
Volunteer, UNIQ+ Graduate Access Programme Oxford, UK	Jul 2022
ML Research Outreach Workshop St Clare's School, Oxford, UK	May 2022
Volunteer, NeurIPS 2020 Remote	Dec 2020
A Level/GCSE Tutor, Coronavirus Tutoring Initiative Virtual	Apr 2020 – Sept 2020
Teaching Assistant/Tutor, Cambridge Academic Partnership Cambridge, UK	Jan 2019 – Apr 2019

SELECTED POSITIONS OF RESPONSIBILITY & INTERESTS

Hackathons [GitHub]	
<ul style="list-style-type: none">Winner, multiple prizes totalling >\$8.5k (over 900 attendees) ETHBogota, ColombiaWinner, Toucan Protocol Prize (over 800 attendees) ETHAmsterdam, Netherlands2nd Place (over 80 submissions) Hack Cambridge, Cambridge, UKEuropean Regional Finalist Citadel Data Open, London, UKWinner Digital Manufacturing Hackathon, Institute for Manufacturing, Cambridge, UK	Oct 2022 Apr 2022 Jan 2020 Nov 2019 Oct 2019
Data and AI Correspondent, UCL Finance and Tech Review London, UK	Oct 2020 – Apr 2021
Consultant, Cambridge Consulting Network Cambridge, UK	Apr 2020 – Jun 2020
<ul style="list-style-type: none">Developed a route-to-market strategy for a MedTech start up. Awarded Star Consultant award.	
EnterpriseTECH Team Lead, Judge Business School Cambridge, UK	Jan 2020 – Mar 2020
<ul style="list-style-type: none">Led a team of six in a consulting project with an early-stage autonomous vehicle tech start up.	
JCR (Student Union) Committee, St John's College Cambridge, UK	Dec 2017 – Dec 2018
<ul style="list-style-type: none">Elected to represent 900 students. Organised popular themed college parties three times a term.Initiated and organised the successful revival of an annual "June Event" for over 300 (sold out) attendees.	
Sport Various	
<ul style="list-style-type: none">Rugby Fives: Cambridge University Blues (1st) team (2019-20). Started as a novice in 2019.Badminton: Captain, St John's College (2017-19). League promotion under my captaincy.Endurance Cycling/Running: e.g., Niagara Falls to New York (2015), Italian Dolomites (2017), Cambridge Half Marathon (2020), Hackney Half Marathon (2022) to fundraise for local charity.	

TECHNICAL SKILLS

Proficient: Python (ML, PyTorch/TF 2.0/JAX, scientific programming, data science), Git, Slurm, Unix
Intermediate: C++, FORTRAN, AWS/GCP, Docker, JavaScript, Solidity
Exposed to: Julia, SQL, HTML, CSS