

Akbir Khan

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Education	Sidney Sussex, University of Cambridge, UK MPhil in Advanced Computer Science Advised by Prof. Hatice Gunes and Jack Hopkins	2017-2018 Distinction
	University College London, UK MSci in Mathematics and Physics Advised by Prof. Stephen Bramwell	2013-2017 1 st Class Honours
	University of Toronto, Canada Visiting Student in Mathematics and Computer Science	2015-2016 GPA: 3.3/4.0
Publications	Considering Race as a Problem of Transfer Learning Akbir Khan, Marwa Mahmoud. In <i>Proceedings of the 2019 IEEE Winter Applications of Computer Vision Workshop: Demographic Variations in Performance of Biometric Algorithms (oral presentation)</i> DOI: 10.1109/WACVW.2019.00022	
	Detecting Anomalous Application Messages In Telecommunication Networks Dishant Shah, Jack Hopkins, Akbir Khan, Javid Lakha. Patent accepted at <i>World Intellectual Property Organisation under the Patent Cooperation Treaty</i> Publication Number: WO2019053234	
Experience	Tractable - AI for Accident & Disaster recovery <i>Senior Applied Researcher</i> Researched Katakana language models, boosting market share in Japan (20% → 100%) Developed suite of internal research tools using PyPi, Docker and Kubernetes.	Feb. 2021 - Present
	Spherical Defence - AI/Cyber Security Lab <i>Chief Research Officer</i> Recruited and managed team of (5+) research engineers to develop intellectual property Employee #1, raised a \$2 million seed and built an ML based Web Application Firewall Researched novel deep learning autoencoders to encode tree-structured data Developed Python service for training/inference models in scalable cloud deployments	Jun. 2017 - Dec. 2020
	Deutsche Bank <i>Software Engineer/Business Analyst</i> Created front-end (Javascript) for internal search engine of market data Implemented MIFIDii regulation (€100m budget) at cross-divisional and global scale	Jun. 2016 - Aug. 2016
	Imperial College London <i>Research Assistant</i> Worked with Prof. David Jennings in the Quantum Optics and Laser Group. Applied information theory to validate restrictions within quantum communication protocols	Jun. 2014 - Aug. 2014
	Technical Skills Languages: Golang, Python [PyTorch, JAX (<i>contributor</i>), Scikit-learn, Haiku] Graduate Courses: Computer Vision, Entanglement Physics, Deep Learning for NLP, Quantum Computation & Communication	
Projects	Deep Equilibrium Model [akbir/deq-jax] Haiku implementation of NeurIPS 2019 Paper - an implicit-depth architecture that solves/backpropogates through the equilibrium state of an (infinitely) deep network	
	Bad Flamingo [jayelm/bad-flamingo] Gamified data collection of adversarial machine learning examples of sketched images Awarded 1 st Prize at the University of Cambridge Ternary Hackathon	
Awards	<i>Foundational Artificial Intelligence Scholarship</i> - UCL <i>Top 30 Teams</i> - Zagreb European Debating Championships 2016 <i>Provost Excellence Scholarship</i> - UCL <i>Berkley Exhibition Scholar</i> - Grammar School at Leeds	