Akbir Khan

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Education

Sidney Sussex College, University of Cambridge, UK — 2017-2018
MPhil in Advanced Computer Science — Distinction
Advised by Prof. Hatice Gunes and Jack Hopkins
(Natural Language Processing and Affective Computing)

University College London, UK — 2013-2017
MSci in Mathematics and Physics — 1st Class Honours
Advised by Prof. Stephen Bramwell
(Thermodynamics and Analytic Magnetic Systems)

University of Toronto, Canada — 2015-2016
Visiting Student in Mathematics and Computer Science — GPA: 3.3/4.0

Publications

Considering Race as a Problem of Transfer Learning
Akbir Khan, Marwa Mahmoud. In *Proceedings of the 2019 IEEE Winter Applications of Computer Vision Workshop: Demographic Variations in Performance of Biometric Algorithms* **(oral presentation)**
DOI: 10.1109/WACVW.2019.00022

Detecting Anomalous Application Messages In Telecommunication Networks
Dishant Shah, Jack Hopkins, Akbir Khan, Javid Lakha. Patent accepted at *World Intellectual Property Organisation under the Patent Cooperation Treaty*
Publication Number:WO2019053234

Experience

Spherical Defence Labs — Jun. 2017 - Present
Chief Research Officer
Manage a team of (+5) research engineers, developing intellectual property
Joined as employee #1, raising a $2 million seed round to build and manage product
Researched novel deep learning autoencoders to model tree-structured data
Implemented neural network for low latency and scalable cloud deployments

Deutsche Bank — Jun. 2016 - Aug. 2016
Software Engineer/Business Analyst
Created user interface for internal search engine of golden-source market and metadata
Implemented MIFIDii regulation (€100m budget) at cross-divisional and global scale
Designed project milestones and tracking metrics, to be used by all (300) projects

Imperial College London — Jun. 2014 - Aug. 2014
Research Assistant
Worked with Prof. David Jennings in the Quantum Optics and Laser Group. Applied information theory to validate restrictions within quantum communication protocols

Technical Skills

Languages: Golang, Python [PyTorch, JAX (*Contributor*), Scikit-learn]
Graduate Courses: Probabilistic ML, Computer Vision, Entanglement Physics, Deep Learning for Natural Language Processing, Quantum Computation & Communication

Projects

Bad Flamingo [jayelm/bad-flamingo]
Gamified data collection of adversarial machine learning examples of sketched images
Awarded 1st Prize at the University of Cambridge Ternary Hackathon

Bag of Poses [am-khan/bag-of-poses]
Deep learning model for emotion detection from the body language of crowds

Awards

Provost Excellence Scholarship - UCL
Berkley Exhibition Scholar - Grammar School at Leeds

Extra Curricular

University Debating: Finalist at Warwick 2016 and Yale 2018 inter-varsity
Charity: DebateMate - mentoring children in areas of poverty through debate
Sports: Member of the Sidney Sussex College mens rowing 2nd team