Akbir Khan

email: akbir.94@gmail.com   website: am-khan.me

Interests	Representation Learning, Reinforcement Learning, AI Safety and Fairness

Education

Sidney Sussex College, University of Cambridge, UK — 2017-2018
MPhil in Advanced Computer Science — Pass with Distinction
Advised by Prof. Hatice Gunes and Jack Hopkins

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

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

Publications

Reconsidering Race as a Problem of Transfer Learning
A.Khan, M.Mahmoud
Workshop on Demographic Variations in Performance of Biometric Algorithms, 2019
IEEE Winter Conference of Applications on Computer Vision, **Oral**
ArXiv: 1812.04751

Latent Racial Bias - Evaluating Racism in Police Stop-and-Searches
A.Khan
ArXiv: 1807.05 (STILL NEEDS TO BE CORRECTED)

Experience

Spherical Defence Labs — Jun. 2018 - Present
Lead Research Scientist
Organise a team of 5 research engineers, directing research of intellectual property
Designed novel unsupervised deep learning architecture to model tree structured data
Co-authored patent to identify anomalous web traffic (Number: 049653.00003)

Deutsche Bank — Jun. 2018 - Aug. 2018
Software Engineer/Business Analyst
Created user interface for internal search engine of golden-source market and meta data
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
Junior Research Assistant
Worked with Prof. David Jennings in the Quantum Optics and Laser Group. Applied
information theory to validate restrictions within quantum communication protocols

Side Projects

Bad Flamingo [github.com/jayelm/bad-flamingo]
Gamified data collection of Adversarial examples of sketched images
Awarded 1st Prize at the Cambridge Ternary Hackathon

Bag of Poses [github.com/am-khan/bag-of-poses]
A machine learning model for emotion detection from the body language of crowds

Skills

Languages: Python [TensorFlow, scikit-learn, NumPy, PyTorch, Keras], Lua [Torch]
Graduate Courses: Probabilistic Machine Learning, Computer Vision, Deep Learning for Natural Language Processing, Group Rings and Fields (UofT), Computation and Simulation Methods (UCL)

Awards

Provost Excellence Scholarship

Extra Curriculum Activities

Charity Work:DebateMate - mentoring children through debating in areas of poverty
University Debating: Finalist at Warwick 2016 and Harvard 2018 inter-varsity
Leadership: Passed the Air Cadet Leadership Course at RAF station Cramwell
Sports: Member of the Sidney Sussex mens rowing 2nd team