## 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 1<sup>st</sup> 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

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

Bad Flamingo [github.com/jayelm/bad-flamingo] Side Projects

Gamified data collection of Adversarial examples of sketched images

Awarded 1<sup>st</sup>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)

Provost Excellence Scholarship Awards

Extra Charity Work: DebateMate - mentoring children through debating in areas of poverty Curriculum University Debating: Finalist at Warwick 2016 and Harvard 2018 inter-varsity Leadership: Passed the Air Cadet Leadership Course at RAF station Cramwell Activities

**Sports**: Member of the Sidney Sussex mens rowing 2<sup>nd</sup> team