Atif Khan

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Education

April 2024 **Ph.D. in Machine Learning and Biomedicine**
Wellcome Centre for Mitochondrial Research and EPSRC CDT , **Newcastle University**.
Thesis title: *mitoML: Machine Learning to Understand Mitochondrial Disease Pathology.*
Advisers: Stephen McGough, Conor Lawless and Amy Vincent

2019 – 2020 **MRes in Machine Learning, Big Data & Cloud Computing**
Newcastle University , United Kingdom.
Dissertation title: *Exploring the case for parametrised resampling for fairness optimisation driven by nuanced metrics for measuring Machine Learning bias.*
Dissertation Adviser: Paolo Missier

2017 – 2019 **MSc in Cloud Computing**
Newcastle University , United Kingdom.
Dissertation title: *Evaluation of Hail: A Genomic (Big) Data Analytics Platform.*
Dissertation Adviser: Paolo Missier

2008 – 2009 **MSc in Computer Network Systems**
Sunderland University , United Kingdom.

2003 – 2007 **BEng in Electronics and Communication Engineering**
Jawaharlal Nehru Technological University , India.

Employment History

2019 – · · · · **Teaching/Research Assistant**
Newcastle University, United Kingdom

2013 – 2019 **DevOps/ Software Engineer**
Newcastle University, United Kingdom
Role: I was a collaborative worker responsible for development, deployment and maintenance of various applications.

2011 – 2013 **Infrastructure Engineer**
York Hospital NHS Foundation Trust, United Kingdom
Role: I was responsible for deployment and maintenance of network and server infrastructure.

Achievements

Awards

2019 **Doctoral Studentship Award** , by EPSRC Cloud Computing for Big Data Centre for Doctoral Training.

2023 **ML4H Travel Grant Award**, by Association for Health Learning & Inference

Funding Grants

2022 **£ 5,000 credit to use cloud IPUs** , by Graphcore

£ 10,000 , by The Alan Turning Institute
* won as part of a team to develop synthetic data evaluation metrics

Achievements (continued)

Certifications

2012 **MCITP: Infrastructure Administrator on Windows Servers**. Awarded by Microsoft.

Skills

Technical Expertise	Computer Vision, Machine Learning, Bio-imaging data, Genomics data.
Coding and Data Science	Python, R, Java, C, C++, LaTeX
Software & Cloud	Building (Python Packages, Napari Plugins, Docker Images), OpenShift, Cloud Deployments.
Misc.	Academic research, teaching and publishing.

Research Publications

Conference Proceedings

1. A. Khan, C. Lawless, A. E. Vincent, *et al.*, "Introducing ncl-sm: A fully annotated dataset of images from human skeletal muscle biopsies," in *Machine Learning for Health (ML4H) Symposium 2023, New Orleans, United States*, 2023. DOI: 10.48550/arXiv.2311.11099.
2. A. Khan, C. Lawless, A. E. Vincent, *et al.*, "Ncl-sm: A fully annotated dataset of images from human skeletal muscle biopsies," in *2023 IEEE International Conference on Big Data (BigData)*, 2023, pp. 3704–3710. DOI: 10.1109/BigData59044.2023.10386552.
3. A. Khan, C. Lawless, A. E. Vincent, S. Pilla, S. Ramesh, and A. S. McGough, "Explainable deep learning to profile mitochondrial disease using high dimensional protein expression data," in *2022 IEEE International Conference on Big Data (Big Data)*, 2022, pp. 4375–4384. DOI: 10.1109/BigData55660.2022.10020391.

Reviewing

Reviewer **IEEE Big Data** | 2023, 2022

References

Available on Request