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

MRes in Machine Learning, Big Data & Cloud Computing 2019 - 2020

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

MSc in Cloud Computing 2017 - 2019

Newcastle University, United Kingdom.

Dissertation title: Evaluation of Hail: A Genomic (Big) Data Analytics Platform.

Dissertation Adviser: Paolo Missier

MSc in Computer Network Systems 2008 - 2009

Sunderland University, United Kingdom.

BEng in Electronics and Communication Engineering 2003 - 2007 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.

Infrastructure Engineer 2011 - 2013

York Hospital NHS Foundation Trust, United Kingdom

Role: I was responsible for deployment and maintenance of network and server infrastructure.

Achievements

Awards

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

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

Certifications

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

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

- 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. O DOI: 10.48550/arXiv.2311.11099.
- 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. ODI: 10.1109/BigData59044.2023.10386552.
- 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. ODOI: 10.1109/BigData55660.2022.10020391.

Reviewing

Reviewer

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References

Available on Request