Muhammad Ali

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Education

Sep 2018 – Present
Ph.D. in Computer Science
Northeastern University

Grade: 3.75/4.0
Co-advised by Alan Mislove and Christo Wilson

Aug 2018
M.S. in Computer Science
Saarland University

Grade: 1.5/5.0 (A-)
Thesis: *Measuring Bias in Facebook's Ad-Targeting Attributes.* Supervised by Krishna Gummadi.

May 2015
B.S. in Computer Science
National University of Computer & Emerging Sciences (NUCES), Lahore

GPA: 3.46/4.0 (95th percentile)
Thesis: *Politeness Classification in Online Community Requests using Recursive Neural Networks.* Supervised by Mehreen Saeed.

Work Experience

Sep 2018 – Present
Graduate Research Assistant
Khoury College of Computer Sciences, Northeastern University
Boston, Massachusetts, USA

Advised by Alan Mislove and Christo Wilson.
Projects in algorithmic auditing and measurement of machine learning systems.

Jun 2017 – Aug 2018
Student Research Assistant
Max Planck Institute for Software Systems
Saarbrücken, Germany

Part of Krishna Gummadi's Networked Systems group.
Master's thesis work and projects related to bias and discrimination in Facebook advertising. Published work at FAT* 2018 and FATREC 2017.

Aug 2015 – Mar 2016
Backend Engineer
Patari Music
Lahore, Pakistan

Built the foundation for the music platform's social features; maintained and added new features to the backend API.

Publications

2019 **Muhammad Ali***, Piotr Sapiezynski*, Miranda Bogen, Aleksandra Korolova, Alan Mislove, and Aaron Rieke. Discrimination through optimization: How Facebook's ad delivery can lead to skewed outcomes, April 2019. `https://arxiv.org/abs/1904.02095`

2018 Till Speicher, **Muhammad Ali**, Giridhari Venkatadri, Filipe Ribeiro, George Arvanitakis, Fabrício Benevenuto, Krishna P. Gummadi, Patrick Loiseau, and Alan Mislove. Potential for discrimination in online targeted advertising. In *Proceedings of the Conference on Fairness, Accountability, and Transparency (FAT*)*, 2018

2017 Abhijnan Chakraborty, **Muhammad Ali**, Saptarshi Ghosh, Niloy Ganguly, and Krishna P. Gummadi. On quantifying knowledge segregation in society. In *Proceedings of the FATREC Workshop on Responsible Recommendation*, 2017

Skills

Technical: Python, JavaScript, R, C, C++, Go, Java, MATLAB, Node.js, MongoDB, SQL, PHP, Unix, LaTeX

Research: Data mining and analysis, natural language processing, machine learning, deep learning, social networks, measurement studies

Teaching

Fall 2015 **Teaching Assistant, NUCES**
Introduction to Computing (CS101).

Summer 2012 **Curriculum Development Intern, CARE Foundation Pakistan**
Volunteered with the NGO to develop teaching techniques for low-resource public schools. Wrote several lecture plans for primary school mathematics and English.