

Muhammad Ali

mali@ccs.neu.edu

<https://ccs.neu.edu/~mali>

Experience

May 2022 – Aug 2022 Burlington, MA	Research Intern Oracle Labs Worked with the Machine Learning Research Group on measuring linguistic biases in large language models (e.g. BERT), both in the embedding-space and in downstream tasks. Advised by Swetasudha Panda, Qinlan Shen, and Michael Wick.
Aug 2021 – Nov 2021 Hillsboro, OR	Research Intern Intel Corporation Worked with the AI and Analytics team to build automated model cards and explainability notebooks (with SHAP) for Intel AI's open source model repository.
Sep 2018 – Present Boston, MA	Graduate Research Assistant Khoury College of Computer Sciences, Northeastern University Conducting large-scale measurement studies of discrimination and harm in public-facing machine learning systems, with a focus on modern advertising platforms. Published work at CSCW 2019, WSDM 2021, and others.
Jun 2017 – Aug 2018 Saarbrücken, Germany	Student Research Assistant Max Planck Institute for Software Systems Research projects in algorithm auditing, using web data for demography and measuring urban segregation. Advised by Krishna Gummadi, published work at FAccT 2018.

Education

2018 – 2023 (exp.) Boston, MA	Ph.D., Northeastern University Computer Science; Advisor: Alan Mislove
2016 – 2018 Saarbrücken, Germany	M.S., Saarland University Computer Science
2011 – 2015 Lahore, Pakistan	B.S., National University of Computer & Emerging Sciences Computer Science

Publications

ConPro '22	All Things Unequal: Measuring Disparity of Potentially Harmful Ads on Facebook Muhammad Ali, Angelica Goetzen, Alan Mislove, Elissa Redmiles, Piotr Sapiezynski ConPro at IEEE S&P. San Francisco, CA. May 2022
WSDM '21	Ad Delivery Algorithms: The Hidden Arbiters of Political Messaging Muhammad Ali*, Piotr Sapiezynski*, Aleksandra Korolova, Alan Mislove, Aaron Rieke WSDM, Online. Mar 2021

CSCW '19	<p>Discrimination through Optimization: How Facebook's ad delivery can lead to skewed outcomes Muhammad Ali*, Piotr Sapiezynski*, Miranda Bogen, Aleksandra Korolova, Alan Mislove, Aaron Rieke CSCW, Austin, TX. Nov 2019 Diversity & Inclusion Award, Honorable Mention</p>
FAccT '18	<p>Potential for Discrimination in Online Targeted Advertising Till Speicher, Muhammad Ali, Giridhari Venkatadri, Filipe Ribeiro, George Arvanitakis, Fabricio Benevenuto, Krishna Gummadi, Patrick Loiseau, Alan Mislove FAccT, New York, NY. Feb 2018 Best Paper Nominee</p>
FAccTRec '17	<p>On Quantifying Knowledge Segregation in Society Abhijnan Chakraborty, Muhammad Ali, Saptarshi Ghosh, Niloy Ganguly, Krishna Gummadi FAccTRec at ACM RecSys, Como, Italy. Aug 2017</p>

* equal contribution

Skills

Technical	<p><i>Active Use:</i> Python (jupyter, matplotlib, pytorch, pandas, numpy, huggingface etc.), R, JavaScript, SQL, Unix, L^AT_EX; <i>Past Use:</i> MATLAB, C, C++, Go, Scala, Spark, Hadoop, Node.js, PHP, React</p>
Research	<p>algorithm auditing, explainable/responsible AI, data analysis (exploratory, descriptive), data visualization, writing, dataset collection, applied machine learning, large scale measurements, computational social science</p>

Teaching

Sep 2022 – Dec 2022	<p>Teaching Assistant Northeastern University CS 6140: Machine Learning, with Predrag Radjovac</p>
Aug 2015 – Dec 2015	<p>Teaching Assistant National University of Computer & Emerging Sciences CS 101: Introduction to Computing, with Sarim Baig</p>

Service/Speaking

Panelist	<p>Technology Law as a Vehicle for Anti-Racism Berkeley Center for Law & Technology, November 12, 2020 Racial Justice & Technology Notre Dame Technology Ethics Center, March 5, 2021</p>
External Reviewer	<p>CSCW 2020, 2021, 2023; NeurIPS 2021 (ethics reviewer)</p>
Program Committee	<p>WWW 2023; FAccT 2021 – 2023; IC2S2 2023</p>
Other	<p>Northeastern PhD Admissions Committee, Fall 2021</p>