Amifa Raj

Boise State University

(208)600-3034
amifaraj@gmail.com
amifaraj.github.io

Education

2018-present **Ph.D Computer Science** | Boise State University | Boise, ID
Advisor: Michael Ekstrand | Expected completion 2023 | CGPA 3.85/4.00

2013-2017 **BS Computer Science & Engineering** | University of Dhaka | Dhaka, Bangladesh
CGPA 3.52/4.00

Research Experience

2018-present **Research Assistant** | People & Information Research Team | Boise State University

- Focusing on addressing algorithmic fairness issues within recommender systems
- Working on projects related to multiple aspects of review-based recommender systems
- Developing algorithms in *Python* for *LensKit* open-source recommendation toolkit
- Supervising undergraduates in research work

Teaching Experience

2018 - 2019 **Teaching Assistant** | Boise State University | Boise, ID

- Tutored object oriented programming and data structure course, CS 221, for two terms
- Engaged with students to foster learning and understanding of course material
- Graded programming projects and clarified student confusion regarding assignments

2018 **Lecturer** | Department of Computer Science & Engineering | State University of Bangladesh

- Taught *Intro to Programming*, *Algorithms*, and *Networking* courses
- Supervised lab sections for courses to support interactive learning

Publications

2020 **Amifa Raj**, Connor Wood, Ananda Montoly and Michael D. Ekstrand. "Comparing Fair Ranking Metrics". Presented at *3rd FAccTRec Workshop* on Responsible Recommendation at *14th ACM Conference on Recommender Systems (RecSys 20). arXiv:2009.01311[cs.IR].*

Selected Projects

2020 **Comparing Fair Ranking Metrics**

- Supervised undergraduate researchers in remote REU
- Describe and compare exposure and rank-fairness metrics in unified framework
- Identify gaps between their original presentation and recommender systems application
- Direct comparison of their outcomes with the same data and experimental setting
- Sensitivity analysis to observe the impact of design choices
- **Tech stack**: NumPy, Pandas, scikit-learn, matplotlib

2020 **Empirical Analysis on Author Gender in Review-based Book Recommendations**

- Explore author gender distribution for different genres in book datasets and reviews
- Investigate the author gender distribution in related book recommendations

- **Tech Stack**: Gensim, NLTK, scikit-learn, Pandas, LaTeX

2019 **Should We Embed or Not?**

- Investigate the effect of pre-trained word embedding on domain-specific corpora for content-based top-N recommendation
- Preliminary results suggest that corpus size has the greatest impact on recommendations
- **Tech Stack**: Gensim, Word2Vec, NLTK, scikit-learn, Pandas, LaTeX

Graduate Coursework

- Intro to Data Science
- Machine Learning
- Recommender Systems
- Intro to Information Retrieval
- Large-Scale Data Analysis
- Advanced Information Retrieval
- Equity & Discrimination in Computing
- Design & Analysis of Algorithm

Conferences Attended

Mar. 2021 ACM Conference on Fairness, Accountability, and Transparency (ACM FAccT 2021)

Nov. 2020 Text REtrieval Conference 2020 (TREC 2020)

Sep. 2020 ACM Conference on Recommender Systems (RecSys 20)

Sep. 2019 ACM Conference on Recommender Systems (RecSys 19)

Academic Service

2021 **Student Volunteer**, ACM FAccT 2021

2020 **Co-organizer**, TREC 2021 Fair Ranking Track

2020 **Student Volunteer**, ACM RecSys 2020

2019 **Student Volunteer**, ACM RecSys 2019