

## ABEER KHAN, Masters (Computer Science)

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### EDUCATION

**Master's in Computer Science**, University of Waterloo  
2019

Sep 2017 - Aug

- CGPA 87.75
- TA for Machine Learning, Database Management, Big Data Analytics
- Teach tutorials on Data Analytics | Guest lectured class of 15 graduate students on graph mining

**Bachelor of Information Technology, IIIT-A**

2013 -

2017

- CGPA 9.20, Dean's Merit List 2017

**Coursework:** Data Structures, Algorithms, Object Oriented Methods, Machine Learning, Data Cleaning, Artificial Intelligence, Data Mining & Warehousing

### RELEVANT EXPERIENCE

**Research assistant, Data Systems Lab**, University of Waterloo  
2019

Sep 2017 - Aug

*Gendered Movements in Reddit*

- Discovered gender issues being discussed by MensRights, Feminism with topic models.
- Discovered other interests people involved in these movements have with word embedding and Latent Semantic Analysis based methods

*Gender Differences in Undergraduate Engineering*

- Discovered differences in reasons, backgrounds of engineering applicants with machine learning (with Google's word2vec, Question Answering) and clustering (K-Means) in **Python**
- Presented at Waterloo Data Science and Engineering [meetup](#) with 90 attendees
- Selected for poster presentation at Canadian Celebration of Women in Computing-2018, recognized by [Globe & Mail](#), CBC radio, published in [Educational Data Mining](#) 2018

*Compact Group Discovery in Attributed Graphs*

- Discovered compact communities in Github network (of 500K nodes, 8M edges), and DBLP network (of 1M nodes, 3.3M edges) with new clustering algorithm that extracts "interesting" groups in **Java**
- Published in Journal of Information Processing and Management 2019

**Data for Good**, Waterloo  
2019

June

- Participated in Data For Good-Waterloo [datathon](#) to help local non profit analyze their data

**Data Science Intern**, Paderborn University, Germany  
2016

May - Jul

- Collaborated with cylinder company to improve production quality by analysing cylinders dataset with different methods like Principal Component Analysis in **Python**

### RELEVANT PROJECTS

*Gender Differences in Co-operative Education*

- Analyzed (numeric) performance evaluations, and supervisor feedback forms to discover gender differences in co-op experiences
- Published in Educational Data Mining 2019

*Domain Pruning in HoloClean*  
2017

Sep - Dec

- Pruned away less likely values that could be assigned to an erroneous cell in a database to repair it using iterative regression, record linkage, association rule mining.
- Tested on [HoloClean](#), an open source machine learning system to impute, clean, and enrich data

*Mission Planning in Artificial Intelligence*  
2016

Jun

- Formulated an algorithm to find best path to reach a set of ordered goals subject to randomness in being able to reach those goals using Genetic Algorithms in C++
- Published in [IEEE](#) for improving algorithmic complexity from exponential to linear

## ACHIEVEMENTS

- Social Coordinator, Treasurer of Math-Graduate Student Association during Masters 2017
- Secretary of student welfare council during Bachelors 2015
- Organiser of CodeShow - coding contests for about 400 students during Bachelors 2014
- Recipient of SPDC merit scholarship for four years (\$4K) during Bachelors 2013 - 2017

## PUBLICATIONS

- **Khan, A.** (2019). Text Mining to Understand Gender Issues: Stories from The Red Pill, Men's Rights, and Feminism Movements (**Master's thesis**, University of Waterloo).
- **Khan, A.**, Golab, L., Kargar, M., Szlichta, J., & Zihayat, M. (2019). Compact group discovery in attributed graphs and social networks. Information Processing & Management, 102054.
- Chopra, S., **Khan, A.**, Mirsafian, M., & Golab, L. (2019). Gender Differences in Science and Engineering: A Data Mining Approach. In EDBT/ICDT Workshops.
- Chopra, S., **Khan, A.**, Mirsafian, M., & Golab, L. (2019). Gender Differences in Work-Integrated Learning Assessments. Educational Data Mining.
- Chopra, S., Gautreau, H., **Khan, A.**, Mirsafian, M., & Golab, L. (2018). Gender Differences in Undergraduate Engineering Applicants: A Text Mining Approach. International Educational Data Mining Society.
- Kala, R., **Khan, A.**, Diksha, D., Shelly, S., & Sinha, S. (2018, July). Evolutionary Mission Planning. In 2018 IEEE Congress on Evolutionary Computation (CEC) (pp. 1-8). IEEE.

## EXTRACURRICULAR ACTIVITIES

- Panelist for [StarterHacks](#) Women in Tech Jan 2019
- Participated in Data for Good - Waterloo [datathon](#) Jun 2019
- Talk on "Solving Practical Problems with Research", Waterloo Mathematics Undergraduate Research Conference Sep 2019
- Participated in Grace Hopper Open Source Day working with non profit Oppia Oct 2018