

# Pratheeksha Nair



McGill University  
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## SUMMARY

- PhD candidate at [Mila](#) and McGill University, supervised by [Prof. Reihaneh Rabbany](#)
- Interested in developing Machine Learning algorithms for learning from few, weak labels in graphs
- Interested in solving socially relevant problems using Machine Learning
- Experienced in weak supervision, topic modelling and clustering
- Currently working on identifying organized crime from online escort advertisement using weak supervision
- Passionate about mentoring junior students and increasing awareness of research opportunities

## ACADEMIC ACHIEVEMENTS

Degree	University	Specialization	Year	Total
PhD	McGill University, Canada	Computer Science	2019-present	3.87/4.0
Integrated Master's	<a href="#">IIIT Bangalore</a> , India	Computer Science Engineering	2014-2019	3.6/4.0

## PUBLICATIONS

- Maricarmen Arenas, [Pratheeksha Nair](#), Reihaneh Rabbany, Golnoosh Farnadi. [Social Media as a Vector for Escort Ads: A Study on OnlyFans advertisements on Twitter](#), *Proceedings of the 15th ACM Web Science Conference* (2023)
- [Pratheeksha Nair](#), Yifei Li, Catalina Vajiac, Andreas Olligschlaeger, Meng-Chieh Lee, Namyong Park, Duen Horng Chau, Christos Faloutsos, Reihaneh Rabbany. [VisPaD: Visualization and Pattern Discovery for Fighting Human Trafficking](#), *Companion Proceedings of the Web Conference* (2022)
- Yifei Li, [Pratheeksha Nair](#), Kellin Pelrine, Reihaneh Rabbany. [Extracting Person Names from User Generated Text: Named-Entity Recognition for Combating Human Trafficking](#), *Findings of the Association for Computational Linguistics*: (2022)
- Wen, Zhi, [Pratheeksha Nair](#), Chih-Ying Deng, Xing Han Lu, Edward Moseley, Naomi George, Charlotta Lindvall, and Yue Li. [Mining heterogeneous clinical notes by multi-modal latent topic model](#), *PloS one* 16, no. 4 (2021)
- Vajiac, Catalina, Andreas Olligschlaeger, Yifei Li, [Pratheeksha Nair](#), Meng-Chieh Lee, Namyong Park, Reihaneh Rabbany, Duen Horng Chau, and Christos Faloutsos. [TRAFFICVIS: Fighting Human Trafficking through Visualization](#), *IEEE Vis* (2021)
- Rameshwar Pratap, Anup Deshmukh, [Pratheeksha Nair](#), Anirudh Ravi, [Scaling up Simhash](#), *In the Proceeding of Machine Learning Research (ACML 2020)*
- Yue Li, [Pratheeksha Nair](#), Zhi Wen, Imane Chafi, et al, [Global Surveillance of COVID-19 by mining news media using a multi-source dynamic embedded topic model](#), *ACM Conference on Bioinformatics, Computational Biology and Health Informatics (ACM-BCB 2020)*
- Arnab Kumar Mondal, [Pratheeksha Nair](#), Kaleem Siddiqi, [Group Equivariant Deep Reinforcement Learning](#), *Inductive Biases, Invariances and Generalization in RL (ICML 2020)*
- Yue Li, [Pratheeksha Nair](#), Xing Han Lu, Zhi Wen, Yuening Wang, et al, [Inferring multimodal latent topics from electronic health records](#), *Nature Communications volume 11, Article number: 2536* (2020)
- [Pratheeksha Nair](#), Anup Deshmukh, Shrisha Rao, [A Scalable Clustering Algorithm for Serendipity in Recommender Systems](#), *In the Workshop Proceedings of the 18th IEEE International Conference on Data Mining (ICDM 2018)*
- Rameshwar Pratap, [Pratheeksha Nair](#), Anup Deshmukh, Tarun Dutt, [Fast and Provable Concept Decompositions in Large Text Corpus](#), *In the Proceedings of Machine Learning Research (ACML 2018)*

## SKILLS

Python ●●●●● Pytorch ●●●●● Numpy, Pandas ●●●●● Object-Oriented Programming ●●●●●  $\LaTeX$  ●●●●●

## RESEARCH PROJECTS

- **Weakly Supervised Learning for Graphs (ongoing) - McGill University, Montreal**
  - Developing Weakly Supervised Learning (learning from limited weak labels) algorithms for graphs
  - Focusing on specific socially relevant applications
  - Potential application for helping law enforcement identify sex trafficking rings and M.O Detection from online escort advertisements
- **Mortality prediction on Electronic Health Records from hidden topics - McGill University, Montreal**
  - Organized experiment settings based on expert reviewer feedback

- Modified an existing implementation and executed a carefully curated list of experiments
- Organized and presented results in a coherent manner
- **Improving Validity of Machine Generated Drugs - Master's thesis at IIIT Bangalore**
  - Solely worked on identifying and establishing the research problem statement
  - Proposed a novel checking strategy to improve the validity of results from existing methods
  - Organized, wrote and presented the thesis
- **Automatic Summarization of Code - Internship at IBM Research AI Lab, India**
  - Introduced a novel application of automatic text summarization models to code
  - Worked in a team of five senior researchers and held weekly brain-storming sessions
  - Presented the technical project as a poster

## LEADERSHIP EXPERIENCE

- **Supervised interns (2022 - present)**
  - Currently co-supervising 3 interns working on projects related to Fighting Human Trafficking
- **Head of events and Mentor - WISR India (2019 - 2023)**
  - Designed, planned and organized events for WISR (Women in STEM Research) India
  - Mentor in the WISR mentorship program for young Indian women undergraduates interested in exploring research in STEM
- **VP Finance at McGill Chapter for Scientista (Fall 2020 - Winter 2021)**
  - Manage finance and audits for the **Scientista** chapter at McGill
- **Mentor at Office for Student Disabilities (OSD) at McGill University (Fall 2020, Winter 2021, Summer 2021)**
  - Mentoring students at McGill University
  - Selected to become a mentor for students registered in OSD
- **Teaching Assistant (2018-2020)**
  - Held clarifying sessions for Introduction to Computer Systems (Winter & Fall 2020 at McGill University)
  - Curated a list of course projects and graded the Programming Languages course (2019 at IIITB)
  - Conducted tutorial sessions and developed project ideas for a class of size 100+ in ML 101 course (2018 at IIITB)
- **Curator at TEDx IIITB (2018)**
  - Communicated with three TEDx speakers to discuss the contents of their speeches
  - Curated their speeches to be best tailored for the event
  - Ensured efficient communication between the speakers and the event hosts in the form of reminders and updates
- **Mentor at the Student Mentoring Program of IIITB (2017-2018)**
  - Mentored three freshman year students and helped them transition to college life
  - Actively listened to their concerns and problems regarding academics
  - Helped them set short-term goals and encouraged them to step out of their comfort zones

## ACHIEVEMENTS

- **Fonds de recherche du Quebec (FRQNT) Scholarship (2023 - 2025)** - Awarded a doctoral training scholarship by the Quebec government for a 3-year period.
- **3rd place in DataJam against Exploitation (Summer 2021)** - Led a team of 5 which won the 3rd place in the 2021 DataJam against Exploitation organized by the ICPC, the Human Trafficking and Migrant Smuggling Section of the UN, Fundación Pasos Libres and IBM Corporate Social Responsibility.
- **Computer Science Teaching Assistant Award (Fall 2020, McGill University)** – Recognized for inspiring and challenging undergraduate students. One among 45 TAs nominated for the award by students.
- **Dean's Merit List (IIIT-B, 2019)** – Recognized for academic excellence on graduating with 3.6/4.0 GPA.
- **GHCI Student Scholar 2018** – Scholarship to attend India's largest gathering of women technologists produced by AnitaB.org and ACM India.
- **World Rank 23/1500 (Adobe CODHERS Codesprint 2016)** – 21<sup>st</sup> place in India
- **World Rank 49/2500 (Women's CodeSprint 2016)** – 19<sup>th</sup> place in India
- **World Rank 7/1000+ (HackerRank Women's Cup 2015)** – 3<sup>rd</sup> place in India. Featured in a **YourStory article**.