Reihaneh Rabbany
Canada CIFAR AI Chair, Mila
School of Computer Science, McGill University

EMPLOYMENT

ASSISTANT PROFESSOR   July 2018 - present
School of Computer Science, McGill University
On maternity leave from December 2018 to May 2019

POSTDOCTORAL FELLOW   November 2016 - June 2018
The Auton Lab, School of Computer Science, Carnegie Mellon University

EDUCATION

PHD IN COMPUTING SCIENCE   September 2016

Department of Computing Science, University of Alberta, Canada
Thesis: *Modular Structure of Complex Networks*
Supervisor: Osmar R. Zaïane

MSC IN COMPUTING SCIENCE   August 2010

Department of Computing Science,University of Alberta, Canada
Thesis: *Community Mining and its Applications in Educational Environments*
Supervisor: Osmar Zaïane

BSC IN COMPUTER ENGINEERING   August 2007

Department of Computer Engineering, Amirkabir University of Technology, Iran

SELECTED REFEREED CONFERENCE PAPERS

[C1] K. Pelrine, J. Danovitch, R. Rabbany, *The Surprising Performance of Simple Baselines for Misinformation Detection*, Proceedings of the 30th the Web Conference, Apr 2021.

[C2] F. Poursafaei , R. Rabbany, and Z. Zilic, *SIGTRAN: Signature Vectors for Detecting Illicit Activities in Blockchain Transaction Networks*, Proceedings of the 25th Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD-2021), May 2021.

[C3] L. Ma, R. Rabbany and A. Romero-Soriano, *Graph Attention Networks with Positional Embeddings*, The 25th Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD-2021), May 2021.

[C4] M. Lee, C. Vajiac, A. Kulshrestha, S. Levy, N. Park, C. Jones, R. Rabbany and C. Faloutsos, *InfoShield: Generalizable Information-Theoretic Human-Trafficking Detection*, Proceedings of the 37th IEEE International Conference on Data Engineering (ICDE), Apr 2021.

[C5] S. Huang, Y. Hitti, G. Rabusseau, R. Rabbany, *Laplacian Change Point Detection for Dynamic Graphs*, Proceedings of the 26th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD), Aug 2020.

[C6] D. Eswaran, R. Rabbany, A. W. Dubrawski, C. Faloutsos, *Social-Affiliation Networks: Patterns and the SOAR Model*, Proceedings of the European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML/PKDD), Sep 2018.

[C7] R. Rabbany, D. Bayani, A. W. Dubrawski, *Active Search of Connections for Case Building and Combating Human Trafficking*, Proceedings of the 24th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD), Aug 2018.

[C8] R. Rabbany, D. Eswaran, A. W. Dubrawski, C. Faloutsos, *Beyond Assortativity: Proclivity Index for Attributed Networks (PRONE)*, Proceedings of the Pacific Asia Conference on Knowledge Discovery and Data Mining (PAKDD), pp. 225-237, May 2017.

[C9] R. Rabbany, O. R. Zaïane, *A General Clustering Agreement Index: for Comparing Disjoint and Overlapping Clusters*, Proceedings of the Thirty-First AAAI Conference on Artificial Intelligence (AAAI), pp. 2492-2498, Feb 2017.

[C10] J. Fagnan, R. Rabbany, M. Takaffoli, E. Verbeek, O. R. Zaïane, *Community Dynamics: Event and Role Analysis in Social Network Analysis*, Proceedings of the 10th International Conference on Advanced Data Mining and Applications (ADMA), pp. 85-97, Dec 2014.

[C11] S. Ravanbakhsh, R. Rabbany, R. Greiner, *Augmentative Message Passing for Traveling Salesman Problem and Graph Partitioning*, Proceedings of the Advances in Neural Information Processing Systems (NIPS), pp. 289-297, Dec. 2014.

[C12] M. Takaffoli, R. Rabbany, O. R. Zaïane, *Community Evolution Prediction in Dynamic Social Networks*, Proceedings of the IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM) , pp. 9-16, Aug. 2014.

[C13] A. Abnar, M. Takaffoli, R. Rabbany, O. R. Zaïane, *SSRM: Structural Social Role Mining for Dynamic Social Networks*, Proceedings of the IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM), pp. 289-296, Aug. 2014.

[C14] M. Takaffoli, R. Rabbany, O. R. Zaïane, *Incremental Local Community Identification in Dynamic Social Networks*, Proceedings of the IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM), pp. 90-94, Aug. 2013.

[C15] R. Rabbany, M. Takaffoli, J. Fagnan, O. R. Zaïane, and R. Campello , *Relative Validity Criteria for Community Mining Algorithms*, Proceedings of the IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM), pp. 258-265, Aug. 2012.

[C16] R. Rabbany, M. Takaffoli and O. R. Zaïane, *Analyzing Participation of Students in Online Courses Using Social Network Analysis Techniques*, Proceedings of the 4th International Conference on Educational Data Mining (EDM), pp. 21-30, Jul. 2011.

REFEREED JOURNAL ARTICLE

[J1] S. Sardaar, B. Qi, A. Dionne-Laporte, G. A Rouleau, R. Rabbany, Y. J Trakadis *Machine learning analysis of exome trios to contrast the genomic architecture of autism and schizophrenia*, BMC psychiatry, Dec 2020.

[J2] A. Abnar, M. Takaffoli, R. Rabbany, and O. R. Zaïane, *SSRM: structural social role mining for dynamic social networks*, Social Network Analysis and Mining Journal (SNAM), 5(1): 1869-5450, Springer, Sep. 2015.

[J3] R. Rabbany, O. R. Zaïane, *Generalization of Clustering Agreements and Distances for Overlapping Clusters and Network Communities*, Data Mining and Knowledge Discovery (DAMI), 29(5): 1458-1485, Springer, Jul. 2015.

[J4] C. Largeron, P-N. Mougel, R. Rabbany, O. R. Zaïane, *Generating Attributed Networks with Communities*, Public Library of Science (PLoS ONE) 10(4), Apr. 2015.

[J5] R. Rabbany, M. Takaffoli, J. Fagnan, O. R. Zaïane, and R. Campello, *Communities Validity: Methodical Evaluation of Community Mining Algorithms*, Social Network Analysis and Mining (SNAM), 3(4): 1039-1062, Springer, Oct. 2013.

REFEREED BOOK CHAPTERS

[B1] R. Rabbany, O. R. Zaïane, *Evaluation of Community Mining Algorithms in the Presence of Attributes*, Trends and Applications in Knowledge Discovery and Data Mining, LNCS 9441: 152-163, Springer, Nov. 2015.

[B2] R. Rabbany, S. ElAtia, M. Takaffoli, O. R. Zaïane, *Collaborative Learning of Students in Online Discussion Forums: A Social Network Analysis Perspective*, Educational Data Mining: Applications and Trends, in Studies in Computational Intelligence Series, 524: 441-466, Springer, Nov. 2014.

[B3] R. Rabbany, M. Takaffoli, J. Fagnan, O. R. Zaïane, and R. Campello, *Relative Validity Criteria for Community Mining Algorithms*, Encyclopedia of Social Network Analysis and Mining, 1562-1576, Springer, Oct. 2014 & 2018.

REFEREED WORKSHOP PAPERS AND POSTERS

[W1] K. Pelrine, J. Danovitch, A. O. Camacho, R. Rabbany, *ComplexDataLab at W-NUT 2020 Task 2: Detecting Informative COVID-19 Tweets by Attending over Linked Documents*, The 6th Workshop on Noisy User-generated Text (W-NUT), Nov. 2020

[W2] A. Kulshrestha, H. Bosiljevac , R. Rabbany, *Detection of Human Trafficking in Online Escort Market*, NeurIPS Workshop for Women in Machine Learning, Dec 2019

[W3] J. Wang, R. Wang, A. Kulshrestha, R. Rabbany, *Anomaly Detection with Joint Representation Learning of Content and Connection*, ICML workshop on AI for Social Good, June 2019.

[W4] R. Rabbany, David Bayani, A. W. Dubrawski, *Active Link Inference for Case Building Investigation*, NIPS workshop on Advances in Modeling and Learning Interactions from Complex Data (AMLICD), Dec 2017.

[W5] R. Rabbany, O. R. Zaïane, *Evaluation of Community Mining Algorithms in the Presence of Attributes*, PAKDD workshop on Quality issues, Measures of Interestingness and Evaluation of Data Mining Models (QIMIE), May 2015.

[W6] R. Rabbany, J. chen and O. R. Zaïane, *Top Leaders Community Detection Approach in Information Networks*, KDD workshop on Social Network Mining and Analysis (SNA-KDD), July 2010.

SELECTED PREPRINTS

[P1] J. Wang, S. Levy, R. Wang, A. Kulshrestha, R. Rabbany, *SGP: Spotting Groups Polluting the Online Political Discourse*, arXiv preprint, Oct 2019.

SELECTED INVITED TALKS

[T1] Understanding Interconnected Societies and Markets, TechAide AI4GOOD Conference and Hackathon, Nov 2020

[T2] Mining Connections to Understand Complex Societies and Markets, AI4SocialGood Lab by CIFAR-OSMO, June 2020

[T3] Analyzing Complex Data to Understand Online Societies and Online Markets, Annual MSR & Mila workshop, November 2019

[T4] Using AI in the Fight Against Human Trafficking, AI4Good conference and hackathon - Montreal edition, June 2019

[T5] Mining Connections, AI Seminar, Carnegie Mellon University, Feb 2018

FUNDING OBTAINED

CIFAR AI Catalyst Grants *Being Politic Smart in the Age of Misinformation (4 PIs)*; 2020/9 - 2022/9

FRQNT Team research project *Smart framework for future-proof ultra-dense-heterogeneous grids: a vision for the emergence of 6G (3 PIs)*; 2020/9 - 2023/9

CFI *Fast scalable deep learning for sensitive big data in healthcare and social contexts (3 PIs)*;2020

NSERC Discovery Grant *Mining Complex Interconnected Data*; 2019/4 - 2024/4

NSERC DGECR Grant *Mining Complex Interconnected Data*; 2019/4 - 2020/4

Canada CIFAR AI Research Chair *Mining Connections*; 2018/7 - 2023/7

McGill School of Computer Science *Start-up Operating Funds*; 2018/7 - 2021/7

SELECTED
SERVICE
ACTIVITIES

ORGANIZING COMMITTEE, Deep Learning for Graphs Workshop at the SIAM International Conference on Data Mining (SDM), 2019

TECHNICAL CHAIR, Signal Processing and Machine Learning for Social Good Symposium at the IEEE Global Conference on Signal and Information Processing (GlobalSIP), 2019

ORGANIZING COMMITTEE, The Broadening Participation in Data Mining Workshop at the ACM SIGKDD 2017 Conference on Knowledge Discovery and Data Mining (KDD), 2017

PROGRAM COMMITTEE,
TheWebConf (Web Mining and Content Analysis Track), 2020, 2021
The ACM International Conference on Web Search and Data Mining (WSDM) 2019, 2020, 2021
Thirty-Fifth AAAI Conference on Artificial Intelligence (AAAI) 2021
International Conference on Learning Representations (ICLR) 2021

REVIEWER,
IDRC-Sida rapid response call for proposals: The COVID-19 Global South AI and Data Innovation Programme 2020
NSERC - Computer Science (EG 1507) 2020
Neural Information Processing Systems (NeurIPS) 2020
International Conference on Learning Representations (ICLR) 2021;

SUPERVISORY
ACTIVITIES

PHD:
Pratheeksha Nair, Kellin Pelrine, Farimah Poursafaei (co-supervised)	2020/9 - present
Aarash Feizi (co-supervised), Andy Huang (co-supervised)	2019/9 - present

MASTERS:
Albert O. Camacho, Xiaoye Ding	2019/9 - present
Jacob Danovitch, Zachary Yang, Anne Imouza (co-supervised)	2020/9 - present
Aayushi Kulshrestha, Junhao Wang, Liheng Ma (co-supervised)	2018/9 - 2020/4

UNDERGRADUATES:
Jiewen Liu (2021/01-present), Yifei Li (2020/05-present), Abby Leung (2020/01-present), Sacha Levy (2019/05-present), Heather Bosiljevac (2019/05 - 2019/12) & Yutong Yan (2018)