

REIHANEH RABBANY
Canada CIFAR AI Chair, Mila
School of Computer Science, McGill University

EMPLOYMENT	ASSISTANT PROFESSOR School of Computer Science, McGill University	July 2018 - present
	POSTDOCTORAL FELLOW The Auton Lab, School of Computer Science, Carnegie Mellon University	November 2016 - June 2018
EDUCATION	PHD IN COMPUTING SCIENCE Department of Computing Science, University of Alberta, Canada Thesis: <i>Modular Structure of Complex Networks</i> Supervisor: Osmar R. Zaïane	September 2016
	MSC IN COMPUTING SCIENCE Department of Computing Science, University of Alberta, Canada Thesis: <i>Community Mining and its Applications in Educational Environments</i> Supervisor: Osmar Zaïane	August 2010
	BSC IN COMPUTER ENGINEERING Department of Computer Engineering, Amirkabir University of Technology, Iran	August 2007

SELECTED
REFEREED
CONFERENCE
PAPERS

- [C1] 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.
- [C2] 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.
- [C3] 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.
- [C4] 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.
- [C5] 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.
- [C6] 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.
- [C7] 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.
- [C8] 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.

- [C9] 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.
- [C10] 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.
- [C11] 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.
- [C12] 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] 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.
- [J2] 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.
- [J3] C. Llargeron, P-N. Mougel, R. Rabbany, O. R. Zaïane, *Generating Attributed Networks with Communities*, Public Library of Science (PLoS ONE) 10(4), Apr. 2015.
- [J4] 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] A. Kulshrestha, H. Bosiljevac, R. Rabbany, *Detection of Human Trafficking in Online Escort Market*, NeurIPS Workshop for Women in Machine Learning, Dec 2019
- [W2] 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.
- [W3] 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.

- [W4] 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.
- [W5] 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] Analyzing complex data to understand online societies and online markets, Annual MSR Mila workshop, November 2019
- [T2] Using AI in the Fight Against Human Trafficking, AI4Good conference and hackathon - Montreal edition, June 2019
- [T3] 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 DGEGR 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 &
OUTREACH
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

SUPERVISORY
ACTIVITIES

- PhD's Thesis Principal Supervisor:
Pratheeksha Nair, Kellin Pelrine 2020/9 - present
- Master's Thesis Principal Supervisor:
Albert O. Camacho, Xiaoye Ding 2019/9 - present
Aayushi Kulshrestha, Junhao Wang 2018/9 - present
- Master's Thesis Co-Supervisor: Aarash Feizi, Liheng Ma, Andy Huang 2019/9 - present
- UNDERGRADUATE INTERNS: Yifei Li (2020/05-present), Sacha Levy (2019/05-present) & Heather Bosiljevac (2019/05 - 2019/12), Yutong Yan (2018)