Radin Hamidi Rad

Curriculum Vitae

Department of Electrical and Computer Engineering,
Ryerson University, Toronto, Canada. Web Page, LinkedIn page, Google Scholar page, Github page

Experience

Jun-Sep 2022 **Microsoft Research**, A.I. Research Intern.

Jan-Apr 2022 **Vector Institute**, Applied Machine Learning Intern.

Education

Since 2019 in progress **Ph.D. in Electrical and Computer Engineering**, *Department of Electrical, Computer, and Biomedical Engineering*, Ryerson University, Toronto, Canada.
Supervisors: Dr. Ebrahim Bagheri & Dr. Mehdi Kargar

2017 – 2019 **M.Sc. in Computer Engineering (Artificial Intelligence branch)**, *Department of Computer Engineering*, Amirkabir University of Technology, Tehran, Iran.
– Thesis : Multi-Layer Graph Based Recommender Systems. Supervisor: Dr. Maryam Amir Haeri

2012 – 2016 **B.Sc. in Electrical Engineering**, *Department of Electrical Engineering*, Amirkabir University of Technology, Tehran, Iran.
– Thesis : Synchronizing robot arm with human arm moves using KINECT. Supervisor: Dr. Saeed Sharifian

Research interests

- Information Retrieval
- Deep Learning
- Recommender Systems
- Natural Language Processing
- Graph Representation Learning
- Responsible AI

Technical Skills

Expert in Python, C/C++, Java, TensorFlow, PyTorch, Keras, NumPy, SciPy, Deep Learning for Information Retrieval and Graph Computation Models, SQL, Matlab, Android Programming

Experience in CUDA, Spark, Hadoop, OpenCV, WEKA/MOA toolkits, G-Cloud, Golang, Javascript, Latex, PHP, HTML/CSS, VHDL, ARM® Coretex-M, FPGA

Publications

A Neural Approach to Forming Coherent Teams in Collaboration Networks, *Radin Hamidi Rad, Shirin SeyedSalehi, Mehdi Kargar, Morteza Zihayat, Ebrahim Bagheri*, The 25th International Conference on Extending Database Technology (EDBT2022).

Retrieving Skill-Based Teams from Collaboration Networks, *Radin Hamidi Rad, Ebrahim Bagheri, Mehdi Kargar, Divesh Srivastava and Jaroslaw Szlichta*, The 44th International ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR2021).

PyTFL: A Python-based Neural Team Formation Toolkit, *Radin Hamidi Rad, Aabid Mitha, Hossein Fani, Mehdi Kargar, Jaroslaw Szlichta and Ebrahim Bagheri*, 30th ACM International Conference on Information & Knowledge Management (CIKM2021).

Learning to Form Skill-based Teams of Experts, *Radin Hamidi Rad, Hossein Fani, Mehdi Kargar, Jarek Szlichta, Ebrahim Bagheri*, Proceedings of the 29th ACM International Conference on Information & Knowledge Management (CIKM2020).

Learning to Form Skill-based Teams of Experts based on Past Collaboration, *Radin Hamidi Rad, Ebrahim Bagheri, Hossein Fani, Mehdi Kargar, Divesh Srivastava and Jaroslaw Szlichta*, Information Processing & Management (IP&M).
Under Review

A Neural Approach to Keyword Search over Graphs, *Radin Hamidi Rad, Ebrahim Bagheri, Mehdi Kargar and Jaroslaw Szlichta*, Proceedings of the 45th International ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR '22).
Under Review

Learning Heterogeneous Subgraph Representations for Team Discovery, *Hoang Nguyen, Radin Hamidi Rad, Ebrahim Bagheri, Mehdi Kargar, Divesh Srivastava and Jaroslaw Szlichta*, Proceedings of the 45th International ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR '22).
Under Review

DyHNet: Learning Dynamic Heterogeneous Network Representations, *Hoang Nguyen, Radin Hamidi Rad, Mehdi Kargar, Ebrahim Bagheri*, Proceedings of the 45th International ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR '22).
Under Review

Subgraph Representation Learning for Team Mining, *Radin Hamidi Rad, Ebrahim Bagheri, Mehdi Kargar, Divesh Srivastava and Jaroslaw Szlichta*, Proceedings of the 14th ACM Web Science Conference (WebSci '22).
Under Review

Neural Ensemble Concept Drift Aware Data Stream Classification, *Radin Hamidi Rad, Maryam Amir Haeri*, Computational Research Progress in Applied Science & Engineering.

Hybrid Forest: A Concept Drift Aware Data Stream Mining Algorithm, *Radin Hamidi Rad, Maryam Amir Haeri*.

A Fuzzy Community-Based Recommender System Using PageRank, *Maliheh Golifroshani, Radin Hamidi Rad, Maryam Amir Haeri*.

Current Projects

Since Sep. 2021 **Heterogeneous Graph Representation Learning**, This project tends to develop new neural-based models for heterogeneous graph representation learning. Developed neural network models will perform downstream data mining tasks defined on knowledge-graphs such as subgraph mining.
Supervised by: Dr. Ebrahim Bagheri & Dr. Mehdi Kargar

Since Sep. 2019 **Team Formation**, The focus of this project is on the composition of teams of experts from collaboration network that would collectively cover given set of skills. Avoiding bias and considering fairness are other essential factors that are considered when forming a team. We utilize graph searching techniques to find a subgraph that optimally addresses a given query. For example, a group of experts that satisfy two main criteria, namely (1) have maximal coverage for a set of required skills, and (2) form an efficient collaborative team structure.
Supervised by: Dr. Ebrahim Bagheri & Dr. Mehdi Kargar

Honors

2021 - 2022 Ryerson Graduate Fellowship.

2020 - 2021 Mitacs Research Training Award.

2019 - 2022 Ryerson Graduate Development Award.

2019 - 2022 Ryerson Graduate Scholarship.

2019 - 2022 Ryerson International Student Scholarship.

2017 - 2019 Ranked Top-10 among graduate students during M.Sc. in Computer Engineering Department.

2009 Ranked 2nd in NADCO National Robotic Contest.

Past Projects

2020 - 2021 **PyTFL Project**, Supervising the PyTFL project, an open-source inclusive framework for graph search using neural networks. This framework uses the Team Formation problem as case study to search the graph for potential subgraph than addresses a given query. Different functionalities including data preparation, neural network models, training/testing pipelines, various benchmarks and fairness analysis are part of this toolkit. Along with the development, my role included supervising an undergrad student during the implementation,
Labs for Systems, Software and Semantics, Ryerson University.

2017 - 2018 **Data Stream Forecasting**, In this project we explored new techniques to develop an effective and accurate forecast system that operates on live data stream. This project led to a journal paper that can be found here,
Big Data Analytics Lab. Amirkabir University of Technology.
Supervised by: Dr. Maryam Amir Haeri

2016 - 2019 **Indoor-Localization**, This project intends to implement an AI system that can be an alternative for GPS, based on RSSI signals and IMU sensors for indoor places. Project succeeded in winning multiple awards by Presidential Deputy for Science and Technology,
M.S.P. research Lab. Amirkabir University of Technology.
Supervised by: Dr. Vahid Pourahmadi

Summer 2016 (as intern) **Action Recognition**, This project proposes a novel action recognition algorithm that utilizes the HMM model to recognize the position based on the spatial data obtained by the KINECT sensor. The result is published as a paper and can be found here,
Artificial Creatures Lab. Sharif University of Technology.
Supervised by: Dr. Hoda Mohammadzade

Academic Services

Reviewer
- ECIR2022: 44th European Conference on Information Retrieval
- CanadianAI 2021: The 34th Canadian Conference on Artificial Intelligence
- CASCONxEVOKE2021: Advanced studies in computer science and software engineering sponsored by the IBM Canada Laboratory
- CanadianAI 2020: The 33rd Canadian Conference on Artificial Intelligence
- MAISoN 2020 (Special Edition): 6th International Workshop on Mining Actionable Insights from Social Networks

Instructor Python Programming Minicourse (AUT Skillcenter)

Recent Teaching Experience

Fall 2021 **COE 718: Embedded Systems Design**, *Graduate Assistant*, Department of Electrical & Computer Engineering, Ryerson University, Dr. Gul N. Khan.

Fall 2021 **ITM 618: Business Intelligence and Analytics**, *Graduate Assistant*, Ted Rogers School Of Management, Ryerson University, Dr. Mehdi Kargar.

Winter 2021 **ITM 500: Data and Information Management**, *Graduate Assistant*, Ted Rogers School Of Management, Ryerson University, Dr. Mehdi Kargar.

Winter 2021 **COE 628: Operating Systems**, *Graduate Assistant*, Department of Electrical & Computer Engineering, Ryerson University, Dr. Rasha Kashef.

Fall 2020 **ITM 618: Business Intelligence and Analytics**, *Graduate Assistant*, Ted Rogers School Of Management, Ryerson University, Dr. Mehdi Kargar.

Summer 2020 **COE 768: Computer Networks**, *Graduate Assistant*, Department of Electrical & Computer Engineering, Ryerson University, Dr. Baha Uddin Kazi.

Summer 2020 **COE 692: Software Design and Architecture**, *Research Assistant*, Department of Electrical & Computer Engineering, Ryerson University, Dr. Faezeh Ensan.

Winter 2020 **ITM 760: Big Data Analytics**, *Graduate Assistant*, Ted Rogers School Of Management, Ryerson University, Dr. Mehdi Kargar.

* There are 12 other teaching assistant roles that are not listed here to save space. The complete list is available upon request.

References

Available Upon Request