Toronto, ON
radin@ryerson.ca

Radin Hamidi Rad

radinhamidi.github.io
GitHub: radinhamidi
LinkedIn: radin-rad

Research Experience

A.I. Research Intern **Jun 2022 - Aug 2022**
Microsoft Research *Redmond, WA*
Developing A.I. Models for Question Tagging and Routing in Community Question Answering Frameworks.
Mentor: Dr. Silviu Cucerzan, Nirupama Chandrasekaran

Applied Machine Learning Intern **Jan 2022 - Apr 2022**
Vector Institute *Toronto, ON*
Developing Language Models for Conversational Question Answering Platforms.
Mentor: Dr. Elham Dolatabadi

Education

Ph.D. of Electrical & Computer Engineering **2019 - present**
Ryerson University
Thesis: Graph Search in Heterogeneous Graphs Using Graph Representation Learning.
Supervisors: Dr. Ebrahim Bagheri & Dr. Mehdi Kargar

Computer Engineering **2017 - 2019**
Amirkabir University of Technology
Thesis: Multi-Layer Graph-Based Recommender Systems.
Supervisor: Dr. Maryam Amir Haeri

Electrical Engineering **2012 - 2016**
Amirkabir University of Technology
Thesis: Synchronizing Robot Arm With Human Arm Moves Using KINECT.
Supervisor: Dr. Saeed Sharifian

Research Interests

My research lies in the fields of **Graph Representation Learning, Information Retrieval, Natural Language Processing**, and **Social Network Analysis**. Specific interests include:

- Subgraph Mining
- Dynamic Graph Representation Learning
- Graph Composition
- Natural Language Processing
- Community Question Answering
- Semantic Search

Skills

Programming Languages	Python, Java, C, C++, LaTeX, Matlab, VHDL, MarkDown
Tools	PyTorch, Tensorflow, Keras, CUDA, Git, Spark, Hadoop, WEKA/MOA, OpenCV

Publication

A Variational Neural Architecture for Skill-based Team Formation Radin Hamidi Rad, Hossein Fani, Ebrahim Bagheri, Mehdi Kargar, Divesh Srivastava and Jaroslaw Szlichta
ACM Transactions on Information Systems (**TOIS**), **Accepted - Pending Revision**

DyHNet: Learning Dynamic Heterogeneous Network Representations Hoang Nguyen, Radin Hamidi Rad, Mehdi Kargar, Ebrahim Bagheri

Proceedings of the Very Large Data Base Endowment Inc. (**PVLDB 2023**), **Submitted on Oct 2022**

PyDHNet: A Python Library for Dynamic Heterogeneous Network Representation Learning and Evaluation Hoang Nguyen, Radin Hamidi Rad, Ebrahim Bagheri
31st ACM International Conference on Information & Knowledge Management (**CIKM2022**), (acceptance rate: **21.0%**)

Subgraph Representation Learning for Team Mining Radin Hamidi Rad, Ebrahim Bagheri, Mehdi Kargar, Divesh Srivastava, Jaroslaw Szlichta
14th ACM Web Science Conference (**WebSci2022**)

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**), (acceptance rate: **18.0%**)

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**), (acceptance rate: **21.0%**)

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**), (acceptance rate: **21.7%**)

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**), (acceptance rate: **21.0%**)

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

Projects

Heterogeneous Graph Representation Learning **2021 - present**
This project tends to develop new neural-based models for heterogeneous graph representation learning. For instance, proposed neural architectures are able to perform downstream tasks on dynamic heterogeneous graphs, or to perform subgraph mining in heterogeneous graphs. The findings from this research project are published in top-tier conferences, e.g. CIKM'22, PVLDB'23.

Team Formation **2019 - present**
The focus of this project is on the composition of teams of experts from a collaboration network that would collectively cover a given set of skills. The team Formation problem as a use case scenario of the Graph Search problem faces many challenges. In addition to covering required skills, a group of experts should show good productivity, strong communication abilities among each other and other qualities. This makes Team Formation a challenging example of keyword search in a graph where in addition to keywords, there are multiple criteria to meet to find the target subgraph. Results and findings from this project were published in form of research papers in top-tier conferences e.g. CIKM'20, SIGIR'21, CIKM'21, EDBT'22.

PyTFL Project **2020 - 2021**
Supervising the PyTFL project, an open-source end-to-end framework for graph search using neural networks. This framework uses the Team Formation problem as a case study to search the graph for a potential subgraph that 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

***Please visit my webpage to see the full list of projects.**

Honors

- Queen Elizabeth II Graduate Scholarship in Science & Technology. (15K$) 2022 - 2023
- Ryerson Graduate Fellowship. (8K$) 2021 - 2022
- Ryerson Graduate Development Award. (12K$) 2019 - 2023
- Ryerson Graduate Scholarship. (15K$) 2019 - 2022
- Mitacs Research Training Award. (6K$) 2020 - 2021
- Ryerson International Student Scholarship. (7K$) 2020 - 2021
- Ryerson FEAS Graduate Funding Award. (3K$) 2019 - 2020
- Ranked Top-10 among graduate students during M.Sc. in Computer Engineering Department. 2017 - 2019
- Ranked 2nd in NADCO National Robotic Contest. 2009 - 2010

Academic Services

- **Research Assisstance** in Canada NSERC CREATE Responsible A.I. Program 2021-2023
- **GPU Cloud Computing Administrator** in *Laboratory for Systems, Software and Semantics (LS3) at Toronto Metropolitan University.* 2019-present
- **PC Member** for WebSci 2023: The 15th ACM Web Science Conference 2023
- **Reviewer** for AAAI 2023: The 37th AAAI Conference on Artificial Intelligence
- **Reviewer** for SIGIR 2022: The 45th International ACM SIGIR Conference on Research and Development in Information Retrieval
- **Reviewer** for CIKM 2022: The 31st ACM International Conference on Information and Knowledge Management
- **Reviewer** for ECIR 2022: The 44th European Conference on Information Retrieval
- **Reviewer** for TheWebConf 2022: The Web Conference 2022
- **PC Member** for WebSci 2022: The 14th ACM Web Science Conference 2022
- **Reviewer** for CanadianAI 2022: The 35th Canadian Conference on Artificial Intelligence
- **Reviewer** for CASCONxEVOKE 2022: Advanced studies in computer science and software engineering sponsored by the IBM Canada Laboratory
- **Reviewer** for CanadianAI 2021: The 34th Canadian Conference on Artificial Intelligence
- **Reviewer** for CASCONxEVOKE 2021: Advanced studies in computer science and software engineering sponsored by the IBM Canada Laboratory
- **Reviewer** for CanadianAI 2020: The 33rd Canadian Conference on Artificial Intelligence
- **Reviewer** for MAISoN 2020 (Special Edition): The 6th International Workshop on Mining Actionable Insights from Social Networks
- **Reviewer** for CanadianAI 2022: The 33th Canadian Conference on Artificial Intelligence

Teaching Experience

- ITM-618 - Business Intelligence and Analytics, Graduate Assistant,
  Ted Rogers School Of Management, Ryerson University, Dr. Mehdi Kargar Fall 2022
- COE-628 - Operating Systems, Graduate Assistant,
  Department of Electrical & Computer Engineering, Ryerson University, Dr. Rasha Kashef Winter 2022
- COE-718 - Embedded Systems Design, Graduate Assistant,
  Department of Electrical & Computer Engineering, Ryerson University, Dr. Gul N. Khan Fall 2021
- ITM-500 - Data and Information Management, Graduate Assistant,
  Ted Rogers School Of Management, Ryerson University, Dr. Mehdi Kargar Fall 2021

- COE-628 - Operating Systems, Graduate Assistant,
  Department of Electrical & Computer Engineering, Ryerson University, Dr. Rasha Kashef Winter 2021
- Instructor for Python Programming Course at AUT Skillcenter 2016

* There are 16 other teaching assistant roles that are not listed here to save space. The complete list is available upon request.

References

- **Dr. Divesh Srivastava**
  - AT&T Chief Data Office
  - Email: divesh@research.att.com
- **Dr. Silviu Cucerzan**
  - Senior Principal Research Manager at Microsoft Research
  - Email: silviu@microsoft.com
- **Dr. Ebrahim Bagheri**
  - Canada Research Chair in Software and Semantic Computing
  - NSERC Industrial Research Chair in Social Media Analytics
  - Professor at Ryerson University, Canada
  - Faculty Fellow, IBM Canada
  - Email: bagheri@ryerson.ca
- **Dr. Jaroslaw Szlichta**
  - Associate Professor at Ontario Tech University, Canada
  - Fellow at IBM Centre for Advanced Studies
  - Email: jarek@ontariotechu.ca
- **Dr. Mehdi Kargar**
  - Assistant Professor at Ted Rogers School of Management, Ryerson University, Canada
  - Email: kargar@ryerson.ca