

SUMMARY OF RESEARCH

I work on the problem of knowledge base integration. Knowledge bases (KBs) have become building blocks of many knowledge-rich applications. As a result, significant work has been devoted to studying methods for creating and populating KBs. Most of this effort is focused on approaches for general-purpose KBs and less work has considered populating domain-specific KBs. When creating a domain-specific KB, it is very likely that an ontology already exists that can be used to model the domain of interest; however, usually these ontologies are accompanied with no or very few ground facts. In these scenarios, one solution is to use the knowledge already stored in another general or domain-specific KB (source) and transform it into a KB which conforms to the constraints of the existing domain-specific ontology (target). This approach is a specific case of data exchange in which data structured under the constraints of a source is transformed such that it respects a target's constraints, using a set of rules (called mapping rules) which specify the relationship between the source and target models. My main focus in Phd is to find novel ways to automatically generate mapping rules that can facilitate the exchange between two KBs.

EDUCATION

Ph.D, Computer Science

University of Toronto - St. George Campus

(Expected graduation: 2021)

Co-Supervised by: Professor Renée J. Miller and Professor Kelly Lyons

Master of Science, Computer Science

University of Toronto - St. George Campus

2014

Supervised by: Professor Kelly Lyons

Honours Bachelor of Science, Computer Science

University of Toronto - St. George Campus

2012

PUBLICATIONS

- B. Ghadiri Bashardoost, R.J. Miller, K. Lyons, and F. Nargesian, "Knowledge Translation", Submitted to VLDB 2020
- F. Nargesian, K. Pu, E. Zhu, B. Ghadiri Bashardoost, and R.J. Miller, "Organizing Data Lakes For Navigation", Accepted in Sigmod 2020.
- B. Ghadiri Bashardoost, R.J. Miller, and K. Lyons, "Towards a benchmark for knowledge base exchange," in *DI2KG '19: KDDs 1st International Workshop on Challenges and Experiences From Data Integration to Knowledge Graphs, 2019*
- B. Ghadiri Bashardoost, K. Lyons, and R. Leung, "A goal-oriented approach for designing collaboration processes," in *49th Hawaii International Conference on System Sciences, 2016 (pp. 757-766). IEEE.*
- B. Ghadiri Bashardoost, C. Christodoulakis, S. Hassas Yeganeh, O. Hassanzadeh, R.J. Miller, K. Lyons, "VizCurator: a Visual Tool for Curating Open Data," *In Proceedings of the 24th International Conference on World Wide Web 2015(pp. 195-198). ACM.*

PATENTS

- Filed: Brisebois, M., Ghadiri Bashardoost, B., Silberman, G., and Morris, C., Lyons, K., Perrie, J., Automatically Generated Employee Profiles, Patent filed with USPTO (United States Patent and Trademark Office) April 29, 2016, Assignee Dell Software, Inc.

TECHNICAL SKILLS

SEMANTIC WEB RELATED TECHNOLOGIES

SPARQL, RDF semantics

Jena, Fuseki, TDB, and ARQ

Protege

PROGRAMMING

C#, JAVA, Python, and UNIX shell scripting

Relational Databases, XML, XPath, and JDBC

EXPERIENCE

DATA SCIENCE INTERN

May 2014 - Aug 2014

Sciencescape (now Meta)

Worked on paper recommendation project:

- Parsed millions of research papers and produced a proximity map which could be used to identify related papers. Using this map, two papers were related if they were cited in a close proximity of each other in another research paper.
- Generated a co-authorship graph (contained more than two billion nodes) based on the bibliographic information of the research papers. Used deduplication techniques to merge nodes which represent the same authors.

TEACHING ASSISTANCE

Sept 2012 - Present

University of Toronto

SOFTWARE DEVELOPMENT INTERN

May 2008 - Aug 2009

IBM, Webfacing for IBM i and IBM Hats team

- Migrated a large number of test scripts from Rational Robot to RFT by writing a code that converts SQABasic statements to Java. The work was presented to a group of senior RFT managers.

CERTIFICATES, HONOURS, AND AWARDS

- Ontario Graduate Scholarship (OGS) (2017 - 2018)
- IBM Certified Solution Designer - Rational Functional Tester for JAVA
- Ranked top 0.5% among 600,000 Participants of Iran's Nationwide University Entrance Exam for Engineering and Applied Sciences