

Department of Mathematical and Computational Sciences
University of Toronto Mississauga
3359 Mississauga Road
Deerfield Hall, 3008K
Mississauga, ON, L5L 1C6

✉ bahar@cs.toronto.edu

🌐 <https://www.cs.toronto.edu/~bahar>

Bahar Aameri

Education

PhD in Computer Science Sep. 2010 – Mar. 2016

University of Toronto, Canada

Thesis: “Reasoning about Change with Domain-Specific Process Ontologies”

Adviser: Michael Gruninger

M.Sc. in Computer Science Sep. 2008 – Aug. 2010

Brock University, Canada

Thesis: “Extending RelAPS to First-Order Logic”

Adviser: Michael Winter

B.Sc. in Computer Engineering Sep. 2003 – Mar. 2008

Amirkabir University of Technology, Iran

Thesis: “Design and Development of an Image Encryption Software using Cellular Automata”

Employment

Assistant Professor (CLTA), Teaching Stream, University of Toronto Mississauga Apr. 2022 - Present

Postdoctoral Fellow, University of Toronto and RBC Dec. 2020 - Mar. 2022

Course Instructor, Department of Computer Science, University of Toronto Mar. 2016 - Mar. 2022

Postdoctoral Fellow, University of Toronto and Autodesk Research Sep. 2016 - Jan. 2019

Graduate Research Assistant, University of Toronto Sep. 2010 - Mar. 2016

Graduate Research Assistant, Brock University Sep. 2008 - Aug. 2010

Teaching Experience

Assistant Professor, Dept. of Mathematical and Computational Sciences, University of Toronto Mississauga

CSC263: Data Structures and Analysis Summer 2022
2nd-year course, 44 students
Duties: designing a course syllabus; 2 hours of lecture per week per sections; designing 10 tutorials, 3 assignments, and midterm and final exams; supervising 3 teaching assistants.

CSC148: Introduction to Computer Science
1st-year, 202 students (two sections) Summer 2022
Duties: designing a course syllabus; 3 hours of lecture per week; designing labs, assignments, and exams; supervising 14 teaching assistants.

Course Instructor, Dept. of Computer Science, University of Toronto

CSC486/2502: Knowledge Representation & Reasoning
4rd-year/graduate course, 80 students Fall 2021
4rd-year/graduate course, 66 students Winter 2021
Duties: designing a course syllabus; 3 hours of lecture per week; designing 4 assignments, and 2 exams; supervising 3 teaching assistants.

CSC384: Intro. to Artificial Intelligence
3rd-year course, 334 students (course coordination only, no teaching duties) Winter 2022
3rd-year course, 125 students Fall 2021
3rd-year course, 360 students (co-teaching three sections) Winter 2020
Duties: designing a course syllabus; 3 hours of lecture per week per sections; designing 4 assignments, a midterm exam and a final exam; supervising 9-16 teaching assistants.

CSC263: Data Structures and Analysis Fall 2018
2nd-year course, 218 students (two sections)
Duties: designing a course syllabus; 2 hours of lecture per week per sections; designing 11 tutorials, 3 assignments, and midterm and final exams; supervising 7 teaching assistants.

CSC236: Intro. to the Theory of Computation
2nd-year course, 120 students Summer 2021
2nd-year course, 560 students (co-teaching three sections) Fall 2020
2nd-year course, 120 students Summer 2020
2nd-year course, 390 students (three sections) Fall 2019
2nd-year course, 120 students Summer 2019
2nd-year course, 240 students (co-teaching two sections) Winter 2019
2nd-year course, 260 students (two sections) Fall 2017

2nd-year course, 260 students (two sections)..... Winter 2016
Duties: designing a course syllabus; 2 hours of lecture per week per sections; designing 11 tutorials, 5 exercises, 3 assignments, and midterm and final exams; supervising 4-13 teaching assistants.

CSC165: Mathematical Expression and Reasoning Winter 2015
1st-year course, 150 students
Duties: designing a course syllabus; 3 hours of lecture per week; designing 8 tutorials, 3 assignments, and midterm and final exams; supervising 13 teaching assistants.

Teaching Assistant, Dept. of Computer Science, University of Toronto

CSC438/2404: Computability and Logic..... Winter 2014
CSC384: Intro. to Artificial Intelligence Fall 2011, Winter 2013, Winter 2016
CSC236: Intro. to the Theory of Computation Fall 2013, Fall 2014, Fall 2015
CSCB63: Design and Analysis of Data Structures..... Winter 2013, Winter 2014
CSC165: Mathematical Expression and Reasoning Winter 2012, Fall 2012, Winter 2013, Fall 2015
CSC148: Introduction to Computer Science Winter 2011
CSC180: Introduction to Computer Programming Fall 2010, Fall 2014
CSC108: Introduction to Computer Programming..... Fall 2011

Teaching Assistant, Dept. of Computer Science, Brock University

COSC4P75: Compiler Construction Fall 2009
COSC1P03: Data Structures and Abstraction Winter 2009, Winter 2010
COSC1P02: Intro. to Computer Science Fall 2008, Fall 2009

Teaching Assistant, Computer Engineering Dept., Amirkabir University of Technology

Principles of Compiler Design..... Winter 2007
Data Structures and Algorithms..... Fall 2006
Design of Algorithms..... Winter 2006
Principles of Computer and Programming Fall 2005

Research Interests

Applications of logic in computer science, knowledge representation and reasoning, design and verification of formal ontologies, semantic web.

Publications

- [1] **Aameri, B.**, and Grninger, M. (2022) Reducible Theories and Amalgamations of Models, ACM Transactions on Computational Logic (TOCL), (Preprint).
- [2] **Aameri, B.**, Chui, C., Grninger, M., Hahmann, T., and Ru, Y. (2020). The FOUnt Ontologies for Quantities, Units, and the Physical world, Applied Ontology, 15(3), 313-359.
- [3] **Aameri, B.**, and Grninger, M. (2020) Location Ontologies based on Mereotopological Pluralism, Applied Ontology, 15(2), 135-184.
- [4] **Aameri, B.**, and Grninger, M. (2019) A Representation Theorem for Change through Composition of Activities, ACM Transactions on Computational Logic (TOCL), 20(4), 1-31.
- [5] **Aameri, B.**, Cheong, H., and Beck, J. Ch. (2019) Towards an Ontology for Generative Design of Mechanical Assemblies, Applied Ontology, 14(2), 127-153.
- [6] Gruninger, M., **Aameri, B.**, Chui, C., Hahmann, T., and Ru, Y. (2018) Foundational Ontologies for Units of Measure, In Proc. of the 10th Int. Conference on Formal Ontology in Information Systems (FOIS 2018), IOS Press: 211-224.
- [7] **Aameri, B.**, and Gruninger, M. (2017) Encountering the Physical World, In Proc. of the Joint Ontology Workshops (JOWO 2017), CEUR Workshop Series, vol. 2050.
- [8] Gruninger, M., and **Aameri, B.** (2017) A New Perspective on the Mereotopology of RCC8, In Proc. of the 13th Conference on Spatial Information Theory (COSIT 2017), LIPIcs-Leibniz International Proceedings in Informatics, vol. 86.
- [9] **Aameri, B.**, and Gruninger, M., and Chui, C. (2016) Anti-Modules., In Proc. of the Joint Ontology Workshops (JOWO 2016), CEUR Workshop Series, vol. 1660.
- [10] **Aameri, B.**, and Gruninger, M. (2015) A New Look to Ontology Correctness, In Proc. of the Symposium on Logical Formalizations of Commonsense Reasoning (Commonsense 2015), AAAI Spring Symposium, AAAI Press.
- [11] **Aameri, B.**, and Gruninger, M. (2014) Reuse with Domain and Process Ontologies, In Proc. of the 8th Int. Workshop on Modular Ontologies (WoMO 2014), CEUR Workshop Series, vol. 1248.
- [12] Gruninger, M., and **Aameri, B.** (2014) Preservation of Modules, In Proc. of the 8th Int. Workshop on Modular Ontologies (WoMO2014), CEUR Workshop Series, vol. 1248.
- [13] **Aameri, B.**, and Gruninger, M. (2013) A First-Order Axiomatization of Change in Mereotopology, the 27th Int. Workshop on Qualitative Reasoning (QR 2013), Bremen, Germany: pp. 115-121.
- [14] **Aameri, B.** (2012) Using Partial Automorphisms to Design Process Ontologies, Proc. of the 7th Int. Conference on Formal Ontology in Information Systems (FOIS 2012), IOS Press: pp. 309-322.

[15] **Aameri, B.**, and Winter, M. (2011) A First-Order Calculus for Allegories. In Proc. of International Conference on Relational and Algebraic Methods in Computer Science, Lecture Notes in Computer Science 6663: pp. 74-91.

Awards and Honors

- Doctoral Completion Award**, University of Toronto,2014-2016
- Graduate and Research Fellowship**, University of Toronto, 2010-2014
- G. Ronald Brown Graduate Award**, Brock University, Winter 2009
- Graduate and Research Fellowship**, Brock University,2008-2010
- DGS Entrance Scholarship**, Brock University, 2008
- 6th ranked and Best All Women**, Regional ACM-ICPC2006

Presentations

- A New Perspective on the Mereotopology of RCC8, COSIT 2017, LAquila, Italy, 2017
- A New Look to Ontology Correctness, AAAI Spring Symposium, Palo Alto, CA..... 2015
- A First-Order Axiomatization of Change in Mereotopology, QR2013, Bremen, Germany 2013
- Designing Ontology for Manufacturing Processes, Semantic Web Meetup, Toronto, Canada 2012
- Using Partial Automorphisms to Design Process Ontologies, FOIS 2012, Graz, Austria 2012
- Reasoning about Allegories, Mapping the New Knowledge Conference, Brock University, Canada 2010

Professional Activities

Editorial: Guest editor of *"Special Issue on Semantic Web for Industrial Engineering: Research and Applications"*, Semantic Web Journal.

Journal Reviewer: Applied Ontology (2018, 2019, 2020, 2021, 2022).

Program Committee: Workshop on Foundational Ontology (2021, 2022), International Workshop on Formal Ontologies meet Industry (2021, 2022), Linked Data in Architecture and Construction Workshop (2022).

Conference Reviewer: Int. Conf. on Principles of Knowledge Representation & Reasoning (KR 2016), Logic in Computer Science (LICS 2018)