michael mior

Education

2013–2018 **Ph.D. Computer Science**, *University of Waterloo*, (expected).
Research focuses on physical design and query optimization for non-relational systems

2009–2011 **Master of Science, Computer Science**, *University of Toronto*.
Research focused on database scalability through the use of virtual machine cloning. Projects involved modifications to the Linux kernel, the Xen hypervisor, and MySQL.

2005–2009 **Bachelor of Science, Computing Science (Honours)**, *University of Ontario Institute of Technology*.
Worked from 2006–2009 as an undergraduate research assistant Laboratory for Advanced User Interfaces and Virtual Reality.

Work History

2011–2013 **Senior Web Developer, Associate Product Manager**, *Bunch*, Toronto, ON and Montréal, QC.
Architected and developed both frontend, backend, mobile applications for the product.
Managed backend services from deployment through to thousands of users per hour.
Developed distributed system for clustering and analysis of large volumes of user data.

Awards

2016–2017 **David R. Cheriton Graduate Scholarship**, *University of Waterloo*.

2016 **Queen Elizabeth II Graduate Scholarship in Science and Technology**, *University of Waterloo*.
Scholarships above received for academic merit during my Ph.D. studies.

2009–2010 **Canada Graduate Scholarship**, *NSERC/University of Toronto*.
Received for academic excellence on starting my graduate studies.

2009 **President's Award of Excellence in Student Leadership**, *UOIT*.
Sole recipient in my graduating year for involvement in leadership of student organizations.

Student Training Assistantship in Research Award, *UOIT*.

Undergraduate Student Research Award, *NSERC*.
The two awards above provided funding for summer research projects in the Laboratory for Advanced User Interfaces and Virtual Reality during my undergraduate degree.

2005–2009 **High Achievement Recognition Program**, *UOIT*.

Publications

2018 **Renormalization of NoSQL Database Schemas**, *M. J. Mior, K. Salem. International Conference on Data Engineering*, (submitted).

2017 **NetStore: Leveraging Network Optimizations to Improve Distributed Transaction Processing Performance**, *X. Cui, M. J. Mior, B. Wong, and K. Daudjee, Active 2017, 10 pages*, Middleware 2017 workshop.
Culmination of a course project exploring the effective use of software-defined networks for optimizing database workloads.

2017 **Locomotor: transparent migration of client-side database code**, *M. J. Mior. Database Programming Languages (DBPL), 5 pages*, (VLDB workshop).

2017 **NoSE: Schema Design for NoSQL Applications**, *M. J. Mior, K. Salem, A. Aboulnaga, and R. Liu. IEEE Transactions on Knowledge and Data Engineering, vol. 29, no. 10, pp. 2275–2289.*
Invited to submit an extended paper as one of the top submissions to the conference below.

michael@mior.ca • michael.mior.ca

2016 **NoSE: Schema Design for NoSQL Applications**, *M. J. Mior, K. Salem, A. Aboulnaga, and R. Liu. International Conference on Data Engineering (ICDE), Helsinki, pp. 181–192.*
Developed an end-to-end system for optimization of queries and updates to various NoSQL systems based on application workloads.

2014 **Automated schema design for NoSQL databases**, *M. J. Mior. SIGMOD Ph.D. Symposium, Snowbird, Utah, pp. 41–45.*
Received a travel award and to present early progress on my Ph.D. research.

2011 **FlurryDB: a dynamically scalable relational database with virtual machine cloning**, *M. J. Mior and E. de Lara. International Conference on Systems and Storage (SYSTOR '11), Haifa, 9 pages.*
Received Best Student Paper Award for work based on my Master's research.

Teaching

2018 **Sessional Instructor**, *University of Waterloo*, CS 116.
Responsible for preparing assignments and examinations as well as delivering weekly lectures.

2013–2017 **Instructional Apprentice/Teaching Assistant**, *University of Waterloo.*
Graded student assignments as well as assisted in preparing course content and leading weekly tutorial sessions and office hours.

- CS 116 — Introduction to Computer Science 2
- CS 135 — Designing Functional Programs
- CS 136 — Elementary Algorithm Design and Data Abstraction
- CS 432 — Business Systems Analysis
- COMM 432 — Electronic Business

2009–2010 **Teaching Assistant**, *University of Toronto.*
Graded student assignments and prepared and led weekly tutorial sessions.

- CSC148 — Introduction to Computer Science
- CSC300 — Computers and Society
- CSC309 — Programming on the Web

Professional Service

2017–2018 **VP Apache Calcite**, *Apache Foundation.*
Apache Calcite is a modular query optimizer used by several commercial and industrial database engines. After serving as a committer and member of the Project Management Committee, I was voted as the project chair for 2018.

2016 **Programming Contest Organizing Committee Member**, *SIGMOD 2016.*
Worked with a team to develop a problem and manage infrastructure to handle contest submissions.

2016 **Translation Committee**, *IEEE Canada.*
Produced French translations of official communications from IEEE Canada to members.

2015–2017 **Commons Committee**, *University of Waterloo.*
As a student representative, assissted with planning and executing department-wide social events.

References

- Professor Khuzaima Daudjee, University of Waterloo, kdaudjee@uwaterloo.ca
- Professor Ken Salem, University of Waterloo, kmsalem@uwaterloo.ca
- Professor Bernard Wong, University of Waterloo, bernard@uwaterloo.ca