

# Jonathan Eyolfson

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## Research Interests

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Program analysis, programming languages, systems, and machine learning.

## Academic Experience

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### University of Toronto

*Electrical and Computer Engineering*

**Assistant Professor, Teaching Stream**

*2022 – Present*

### University of California, Los Angeles

*Computer Science and Engineering*

**Postdoctoral Fellow**

*2018 – 2022*

Advisor: Harry Xu

## Education

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### University of Waterloo

*Electrical and Computer Engineering*

Thesis: "Enforcing Abstract Immutability"

Advisor: Patrick Lam

**Ph.D.**

*2011 – 2018*

### University of Waterloo

*Electrical and Computer Engineering*

Thesis: "Tracerory - Dynamic Tracematches and Unread Memory Detection for C/C++"

Advisor: Patrick Lam

**M.A.Sc.**

*2009 – 2011*

### Queen's University

*Electrical and Computer Engineering*

**B.Sc. (Honours)**

*2005 – 2009*

## Teaching Experience

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### University of Toronto

*Electrical and Computer Engineering*

APS 105: Computer Fundamentals

**Assistant Professor, Teaching Stream**

*Winter 2024*

### University of Toronto

*Electrical and Computer Engineering*

ECE 353: Systems Software

**Assistant Professor, Teaching Stream**

*Winter 2023, Winter 2024*

### University of Toronto

*Electrical and Computer Engineering*

ECE 344: Operating Systems

**Assistant Professor, Teaching Stream**

*Fall 2022, Fall 2023*

### University of California, Los Angeles

*Computer Science and Engineering*

CS 111: Operating System Principles

**Lecturer**

*Spring 2021, Summer 2021, Fall 2021*

### University of Waterloo

*Electrical and Computer Engineering*

ECE 459: Programming for Performance

University-Level Award: Amit & Meena Chakma Award for Exceptional Teaching by a Student

**Instructor**

*Winter 2012*

## Grants and Scholarships

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NSERC (PGS D)

2013 – 2014

Ontario Graduate Scholarship

2010

## Refereed Conference Publications

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- [1] John Thorpe, Pengzhan Zhao, Jonathan Eyolfson, Yifan Qiao, Zhihao Jia, Minjia Zhang, Ravi Netravali, and Guoqing Harry Xu. "Bamboo: Making Preemptible Instances Resilient for Affordable Training of Large DNNs". In: *20th USENIX Symposium on Networked Systems Design and Implementation (NSDI)*. 2023.
- [2] Chenxi Wang, Haoran Ma, Shi Liu, Yifan Qiao, Jonathan Eyolfson, Christian Navasca, Shan Lu, and Guoqing Harry Xu. "MemLiner: Lining up Tracing and Application for a Far-Memory-Friendly Runtime". In: *16th USENIX Symposium on Operating Systems Design and Implementation (OSDI)*. **Jay Lepreau Best Paper Award**. 2022.
- [3] John Thorpe, Yifan Qiao, Jonathan Eyolfson, Shen Teng, Guanzhou Hu, Zhihao Jia, Jinliang Wei, Keval Vora, Ravi Netravali, Miryung Kim, and Guoqing Harry Xu. "Dorylus: Affordable, Scalable, and Accurate GNN Training with Distributed CPU Servers and Serverless Threads". In: *15th USENIX Symposium on Operating Systems Design and Implementation (OSDI)*. 2021.
- [4] Jonathan Eyolfson and Patrick Lam. "How C++ Developers Use Immutability Declarations: an Empirical Study". In: *Proceedings of the 41st International Conference on Software Engineering (ICSE)*. 2019.
- [5] Jonathan Eyolfson and Patrick Lam. "C++ const and Immutability: An Empirical Study of Writes-Through-const". In: *30th European Conference on Object-Oriented Programming (ECOOP)*. 2016.
- [6] Jonathan Eyolfson and Patrick Lam. "Detecting Unread Memory Using Dynamic Binary Translation". In: *Runtime Verification, Third International Conference (RV)*. 2012.
- [7] Jonathan Eyolfson, Lin Tan, and Patrick Lam. "Do Time of Day and Developer Experience Affect Commit Bugginess?" In: *Proceedings of the 8th International Working Conference on Mining Software Repositories (MSR)*. 2011.

## Journal Publications

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- [8] Jonathan Eyolfson, Lin Tan, and Patrick Lam. "Correlations between Bugginess and Time-Based Commit Characteristics". In: *Empirical Software Engineering* 19.4 (2014).

## Reviewing

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Reviewer

*Technical Symposium on Computer Science Education (SIGCSE TS) 2024*

Reviewer

*Transactions on Software Engineering 2019*

Artifact Evaluation Committee

*ECOOP 2017 & 2018*

Artifact Evaluation Committee

*OOPSLA 2016 & 2017*