Caroline Lemieux

✉ clemieux@cs.berkeley.edu   🐦@cestlemieux   🌐 http://www.carolemieux.com

Education

University of California, Berkeley   *2016–Present (expected 2021)*
  Ph.D. in Computer Science
  Advisor: Koushik Sen

University of British Columbia   *2012-2016*
  B.Sc. in Combined Honours Computer Science and Mathematics
  Graduated with highest standing in Faculty of Science (Governor General's Silver Medal)

Publications

[1] pdf
Rohan Padhye, Caroline Lemieux, Koushik Sen, Mike Papadakis, Yves Le Traon. *Semantic Fuzzing with Zest.* In Proceedings of the 28th International Symposium on Software Testing and Analysis, July 2019.

[2] pdf
Rohan Padhye, Caroline Lemieux, Koushik Sen, Mike Papadakis, Yves Le Traon. *Validity Fuzzing and Parametric Generators for Effective Random Testing.* In Proceedings of the 41st International Conference on Software Engineering (ICSE), May 2019. (Posters Track).

[3] pdf
Rohan Bavishi, Caroline Lemieux, Neel Kant, Roy Fox, Koushik Sen, Ion Stoica. *Inference of API Functions from Input-Output Examples.* In Workshop on ML for Systems at NeurIPS 2018, December 2018.

[4] pdf
Caroline Lemieux, Koushik Sen. *FairFuzz: A Targeted Mutation Strategy for Increasing Greybox Fuzz Testing Coverage.* In Proceedings of the 33rd International Conference on Automated Software Engineering (ASE), September 2018.

[5] pdf
Caroline Lemieux, Rohan Padhye, Koushik Sen, Dawn Song. *PerfFuzz: Automatically Generating Pathological Inputs.* In Proceedings of the 27th International Symposium on Software Testing and Analysis, July 2018. **Distinguished Paper Award.**

[6] pdf
Caroline Lemieux, Dennis Park, Ivan Beschastnikh. *General LTL Specification Mining.* In Proceedings of the 30th International Conference on Automated Software Engineering (ASE), November 2015.

[7] pdf
Caroline Lemieux, Ivan Beschastnikh. *Investigating Program Behavior Using the Texada LTL Specifications Miner.* In Proceedings of the 30th International Conference on Automated Software Engineering (ASE), November 2015. (Tool Demonstration Track)

[8] pdf
Caroline Lemieux. *Mining Temporal Properties of Data Invariants.* In Proceedings of the 37th International Conference on Software Engineering (ICSE), May 2015. (ACM SRC Research Abstract; **won 1st place in Undergraduate Category**)

Experience

Graduate Student Researcher   *2016-Present*
  Working with Koushik Sen at UC Berkeley, primarily on projects related to automated program testing and synthesis of API programs.

Graduate Student Instructor   *2019*
For CS61A, Berkeley's introductory computer science course, taught by Dan Garcia. Ran two discussions for regular CS61A material, as well as an extra lecture series.

Google Software Engineering Intern   *2018*
Hosted by Stefan Bucur, built a static analysis tool to automatically generate fuzz targets.

Micorosft Research Intern   *2017*
Worked in the CloudBuild team on automated detection of build error anomalies.

Research Assistant (Volunteer, USRA)   *2014-2016*
Worked with Ivan Beschastnikh at UBC. Developed the general LTL specification mining tool Texada and the data-temporal property mining tool Quarry.

Undergraduate Academic Assistant   *2013-2014*
With Gregor Kiczales at UBC – video lecture editor and online teaching assistant for Coursera offerings of *Introduction to Systematic Program Design*.

Undergraduate Teaching Assistant   *2013*
In-class TA for CPSC 110 (UBC's introductory CS course) taught by Meghan Allen.

Service

TAP 2019 (International Conference on Tests and Proofs) Program Committee   *2019*

Treasurer, Berkeley Women in Computer Science and Electrical Engineering   *2018-2019*
Treasurer functions included applying for funding, coordinating with industry sponsors, organizing the budget and handling reimbursement. Helped organize Berkeley-Stanford research and mentorship meetup.

ICSE 2019 Demonstrations Program Committee   *2019*

ICSE 2018 Poster Session Program Committee   *2018*

Social Chair, Berkeley Women in Computer Science and Electrical Engineering *2017-2018*
Social chair functions included organizing the first-year grad mentoring program, the EECS-wide grad student holiday party and WICSE brunch for prospective students at visit days.

Awards and Scholarships

International

Google PhD Fellowship in Programming Technology and Software Engineering	**2019**
Finalist, CRA Outstanding Undergraduate Researcher Award	**2016**
1st Place Undergraduate, ACM Student Research Competition at ICSE 2015	**2015**
Honorable Mention, CRA Outstanding Undergraduate Researcher Award	**2015**

National

NSERC CGS D (declined)	**2016**
NSERC Undergraduate Student Research Award (supervisor: Ivan Beschastnikh)	**2014, 2015**

Institutional - UCB

Demetri Angelakos Memorial Achievement Award	**2019**
Berkeley Fellowship for Graduate Study	**2016**
EECS Excellence Award	**2016**

Institutional - UBC

Governor General's Silver Medal (best in the graduating class for the B.Sc. degree)	**2016**
Markus Meister Memorial Prize in Computer Science	**2016**
G C Webber Memorial Prize	**2016**
Computer Science Scholarship	**2015**
Shirley Snelgrove and John Yule Scholarship	**2015**
Trek Excellence Scholarship for Continuing Studies	**2013, 2014, 2015**
Reginald Palliser-Wilson Scholarship	**2014, 2015**
Daniel Buchanan Scholarship in Mathematics (highest standing in Honours Math)	**2015**
Maureta Evelyn McDonald Memorial Scholarship	**2014**
Charles and Jane Banks Scholarship	**2013**
Janus J Klawe Memorial Science One Scholarship	**2012**
Chancellor's Scholar Award	**2012**

Natural Languages

French (Fluent), English (Fluent), Spanish (Basic)