

# Lauren Pick

Email [pick@berkeley.edu](mailto:pick@berkeley.edu) Webpage [lpick.github.io](http://lpick.github.io)

## Education

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2016 - 2021	<b>Princeton University</b> , Princeton, NJ, USA Ph.D. Computer Science Advisor: Aarti Gupta Thesis: Scaling Automatic Modular Verification
2013 - 2016	<b>Homerton College, University of Cambridge</b> , Cambridge, UK B.A. Hons Computer Science

## Awards and Scholarships

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2022 - 2024	<b>CI Fellows Postdoctoral Fellowship</b> with Aws Albarghouthi
2018 - 2021	<b>NSF Graduate Research Fellowship Program (NSF GRFP) Fellowship</b>
2017	<b>VMW Travel Scholarship</b> to attend the Verification Mentoring Workshop and CAV
2016 - 2021	<b>Dean's Grant</b> , Princeton University
2015, 2016	<b>David Thompson Scholarship</b> , Homerton College, University of Cambridge
2013 - 2016	<b>Cambridge Overseas Trust Scholarship</b>

## Research Experience

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Jan 2022 -	<b>Postdoctoral Researcher</b> , University of Wisconsin-Madison, Madison, WI, USA
Nov 2021 -	<b>Postdoctoral Researcher</b> , University of California, Berkeley, Berkeley, CA, USA
Sept 2016 - Nov 2021	<b>Research Assistant</b> , Princeton University, Princeton, NJ, USA Developing techniques to infer and use domain-targeted invariants to scale automated verification.
April - July 2021	<b>Intern</b> , Amazon Web Services, USA Continued work on scalable symbolic execution and verification of distributed systems written in P.
May - August 2020	<b>Intern</b> , Amazon Web Services, USA Worked on developing and implementing techniques for scalable symbolic execution of distributed systems specified in the P language.
June - August 2018	<b>Intern</b> , Amazon Web Services, New York, NY, USA Worked on applying formal verification to security-critical code as part of AWS Security's Automated Reasoning Group.
July - Aug 2016	<b>Student Associate</b> , SRI International, Menlo Park, CA, USA Worked on using abstract interpretation to find additional invariants useful to the Sally model checker. Sally: <a href="http://sri-csl.github.io/sally">http://sri-csl.github.io/sally</a>
June - Aug 2015	<b>Intern</b> , NASA Langley Research Center, Hampton, VA, USA Implemented a bounded Metric Temporal Logic library for the Copilot eDSL. Collaborated with another intern to write monitors for properties of aircrafts in Copilot. Copilot: <a href="http://github.com/copilot-language/Copilot">http://github.com/copilot-language/Copilot</a>

## Teaching Experience

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Spring 2018	<b>Teaching Assistant</b> , Princeton University, Princeton, NJ, USA COS226: Data Structures and Algorithms
Fall 2017	<b>Teaching Assistant</b> , Princeton University, Princeton, NJ, USA COS516: Automated Reasoning about Software

## Publications and Presentations

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- AutoWS-Bench-101: Benchmarking Automated Weak Supervision with 100 Labels.** Nicholas Roberts, Xintong Li, Tzu-Heng Huang, Dyah Adila, Spencer Schoenberg, Cheng-Yu Liu, Lauren Pick, Haotian Ma, Aws Albarghouthi, Frederic Sala. To appear at Conference on Neural Information Processing Systems (NeurIPS). 2022.
- Qubit Mapping and Routing via MaxSAT.** Abtin Molavi, Amanda Xu, Martin Diges, Lauren Pick, Swamit Tannu, Aws Albarghouthi. International Symposium on Microarchitecture (MICRO). 2022.
- Unbounded Procedure Summaries from Bounded Environments.** Lauren Pick, Grigory Fedyukovich, Aarti Gupta. International Conference on Verification, Model Checking, and Abstract Interpretation (VMCAI). 2021.
- Automating Modular Verification of Secure Information Flow.** Lauren Pick, Grigory Fedyukovich, Aarti Gupta. Formal Methods in Computer-Aided Design (FMCAD). 2020.
- Call-Graph-Guided Verification** (Poster). Lauren Pick. Formal Methods in Computer-Aided Design (FMCAD) Student Forum. 2019.
- Exploiting Synchrony and Symmetry in Relational Verification.** Lauren Pick, Grigory Fedyukovich, Aarti Gupta. International Conference on Computer Aided Verification (CAV). 2018.

## Service

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- Program Committee for PLDI'22.
- External Review / Artifact Evaluation Committee for OOPSLA'22.
- Subreviewer for FMCAD'20.
- Artifact Evaluation Committee for CAV'19.
- Subreviewer for ATVA'18.
- Subreviewer for CAV'17.

## Summer Schools

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| 2017 | Marktoberdorf Summer School on Logical Methods for Safety and Security of Software Systems |
| 2017 | Oregon Programming Languages Summer School   |

## Other Activities

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| Summer 2022        | <b>Mentor</b> , Transfer-to-Excellence Summer Research Program, Berkeley, CA, USA<br>Co-mentored an undergraduate community college student on a summer research project on program synthesis for distributed systems.                                      |
| Spring 2019        | <b>Instructor</b> , Prison Teaching Initiative (PTI), Fort Dix, NJ, USA<br>MAT126: Elementary Statistics II<br>PTI: <a href="https://mcgraw.princeton.edu/PTI">https://mcgraw.princeton.edu/PTI</a>   |
| 2017 - 2019        | <b>Officer</b> , SACNAS (Princeton Chapter), Princeton, NJ, USA<br>2017-2018: Treasurer, 2018-2019: Secretary<br>SACNAS: <a href="http://sacnas.org">http://sacnas.org</a>  |
| Nov 2014, Feb 2016 | <b>Volunteer</b> , STIMULUS, Cambridge, UK<br>Teaching assistant. Helped with classes at a local sixth form college.<br>2014: AS-Level Mathematics, 2016: AS-Level Computing<br>STIMULUS: <a href="http://stimulus.maths.org">http://stimulus.maths.org</a> |