
Education

- 2017–2024 **Carnegie Mellon University**, Pittsburgh, PA.
Ph.D. in Computer Science
Advisor: Bryan Parno
Ph.D. Thesis title: *Verifying Concurrent Systems Code*
(2024 School of Computer Science Dissertation Award: Honorable Mention)
- 2010–2014 **Massachusetts Institute of Technology**, Cambridge, MA.
B.S., Computer Science
B.S., Mathematics
Master of Engineering, Computer Science
Master's Thesis Title: *A Web Framework for Automatically Enforcing Privacy Policies*

Publications

- [1] *Verus: A Practical Foundation for Systems Verification.*
Andrea Lattuada, Travis Hance, Jay Bosamiya, Matthias Brun, Chanhee Cho, Hayley LeBlanc, Pranav Srinivasan, Reto Achermann, Tej Chajed, Chris Hawblitzel, Jon Howell, Jay Lorch, Oded Padon, and Bryan Parno.
SOSP, 2024.
Distinguished Artifact Award.
- [2] *Inductive Invariants That Spark Joy: Using Invariant Taxonomies to Streamline Distributed Protocol Proofs.*
Tony Zhang, Travis Hance, Manos Kapritsos, Tej Chajed, and Bryan Parno
Proceedings of the 18th USENIX Symposium on Operating Systems Design and Implementation,
OSDI, 2024.
- [3] *Leaf: Modularity for Temporary Sharing in Separation Logic.*
Travis Hance, Jon Howell, Oded Padon, and Bryan Parno.
Proceedings of the ACM on Programming Languages, Vol. 7, **OOPSLA**, 2023.
- [4] *Verus: Verifying Rust Programs Using Linear Ghost Types.*
Andrea Lattuada, Travis Hance, Chanhee Cho, Matthias Brun, Isitha Subasinghe, Yi Zhou, Jon Howell, Bryan Parno, and Chris Hawblitzel.
Proceedings of the ACM on Programming Languages, Vol. 7, **OOPSLA**, 2023.
- [5] *Sharding the State Machine: Automated Modular Reasoning for Complex Concurrent Systems.*
Travis Hance, Yi Zhou, Andrea Lattuada, Reto Achermann, Alex Conway, Ryan Stutsman, Gerd Zellweger, Chris Hawblitzel, Jon Howell, and Bryan Parno.
Proceedings of the 17th USENIX Symposium on Operating Systems Design and Implementation,
OSDI, 2023.
- [6] *Finding Invariants of Distributed Systems: It's a Small (Enough) World After All.*
Travis Hance, Marijn Heule, Ruben Martins, and Bryan Parno.
Proceedings of the 18th USENIX Symposium on Networked Systems Design and Implementation,
NSDI, 2021.
- [7] *Storage Systems Are Distributed Systems (so Verify Them That Way!).*
Travis Hance, Andrea Lattuada, Chris Hawblitzel, Jon Howell, Rob Johnson, and Bryan Parno.
Proceedings of the 14th USENIX Conference on Operating Systems Design and Implementation,
OSDI, 2020.

- [8] *Liquid Information Flow Control*.
Nadia Polikarpova, Deian Stefan, Jean Yang, Shachar Itzhaky, Travis Hance, and Armando Solar-Lezama.
Proceedings of the ACM on Programming Languages, Vol. 4, **ICFP**, 2020.
- [9] *Precise, Dynamic Information Flow for Database-Backed Applications*.
Jean Yang, Travis Hance, Thomas H. Austin, Armando Solar-Lezama, Cormac Flanagan, and Stephen Chong.
Proceedings of the 37th ACM SIGPLAN Conference on Programming Language Design and Implementations, **PLDI**, 2016.
- [10] *Generalizing and Derandomizing Gurvits’s Approximation Algorithm for the Permanent*.
Scott Aaronson and Travis Hance.
Quantum Information and Computation, Vol. 14. 2014.

Professional Experience

- 2025–Present **Max Planck Institute for Software Systems**, Saarbrücken, Germany
Postdoctoral Researcher
- 2019–2021 **VMware Research**, Bellevue, WA
Research Intern (two summer internships, plus part-time internship during the year)
Verification of database storage systems
Mentored by Jon Howell and Rob Johnson
Led to publications [5] and [7]
- 2013–2017 **Dropbox, Inc.**, San Francisco, CA
Web Engineer (2014–2017), engineering of concurrent document editing and synchronization
Software Intern (2013), automation of database maintenance and migrations
- 2012 **Meta Platforms, Inc. (formerly Facebook, Inc.)**, Menlo Park, CA
Software Intern, data collection in network systems

Teaching Experience

- 2021 **Teaching Assistant**, *Optimizing Compilers (CMU, with Todd Mowry)*
- 2019 **Teaching Assistant**, *Introduction to Computer Security (CMU, with Bryan Parno)*
- 2011 **Teaching Assistant**, *Advanced Algorithms (MIT, with David Karger)*