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## Education

- 2017–2024 **Carnegie Mellon University**, Pittsburgh, PA.  
Ph.D. in Computer Science  
Advisor: Bryan Parno  
Ph.D. Thesis title: *Verifying Concurrent Systems Code*
- 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*

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## 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** (conditionally accepted; to appear), 2024.
- [2] *Inductive Invariants That Spark Joy: Using Invariant Taxonomies to Streamline Distributed Protocol Proofs*.  
Tony Zhang, Travis Hance, Manos Kapritsos, Tej Chajed, 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 Implementation*, **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.

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## Professional Experience

- 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

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## 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)*