Robert Dickerson

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Education

Purdue University, Ph.D. — August 2018 - August 2025
Computer Science — West Lafayette, IN
Advisor: Benjamin Delaware
Dissertation: Practical Automated Relational Verification

Truman State University, B.S. — August 2002 – May 2006
Computer Science and Mathematics *(Double Major)* — Kirksville, MO

Employment

Augustana College — August 2025 – Now
Assistant Professor of Computer Science — Rock Island, IL

Purdue University — January 2024 – May 2025
Graduate Teaching Assistant — West Lafayette, IN

Purdue University — August 2018 – December 2023
Graduate Research Assistant — West Lafayette, IN

Mado Labs — July 2017 – August 2018
Lead Android Engineer — Brooklyn, NY

Riot Games — August 2016 – April 2017
Senior Software Engineer — Los Angeles, CA

Block, Inc. (formerly Square, Inc.) — November 2010 – August 2016
Software Engineer / Engineering Manager — San Francisco, CA

NISC — June 2006 – November 2010
Software Specialist / Senior Software Specialist — Lake St. Louis, MO

Teaching Experience

Purdue University, CS 307 Software Engineering — Fall 2024
Head Teaching Assistant — West Lafayette, IN

Purdue University, CS 456 Programming Languages — Spring 2024
Teaching Assistant — West Lafayette IN

Purdue University, CS 560 Reasoning About Programs — Fall 2023
Teaching Assistant — West Lafayette IN

Purdue University, CS 307 Software Engineering — Spring 2023
Head Teaching Assistant — West Lafayette, IN

EnCircle Technologies, Introduction to Java — Fall 2017
Instructor — Columbia, MO

Mentoring

Michael Zhang Spring 2020
RHLE: Modular Deductive Verification of Relational ∀∃ Properties

Publications

OOPSLA 2025 **Dickerson, R.**, Mukherjee, P., and Delaware, B. *Kestrel: Relational Verification using E-Graphs for Program Alignment*. Proceedings of the ACM on Programming Languages, Volume 9 (OOPSLA 2025).

APLAS 2022 **Dickerson, R.**, Ye, Q., Zhang, M., and Delaware, B. *RHLE: Modular Deductive Verification of Relational ∀∃ Properties*. Asian Symposium on Programming Languages and Systems. Cham: Springer Nature Switzerland, 2022.

OOPSLA 2021 Zhou, Z., **Dickerson, R.**, Delaware, B., and Jagannathan, S. *Data-driven Abductive Inference of Library Specifications*. Proceedings of the ACM on Programming Languages, Volume 5 (OOPSLA 2021).
Distinguished Artifact Award

Academic Service

Artifact Evaluation Committee Member 2024
Programming Languages Design and Implementation (PLDI)

Artifact Evaluation Committee Member 2024
Object-Oriented Programming, Systems, Languages and Applications (OOPSLA)

Artifact Evaluation Committee Member 2023
Principles of Programming Languages (POPL)

Reviewer 2023
Principles of Programming Languages (POPL)

Reviewer 2022
Certified Programs and Proofs (CPP)

Graduate Committee Representative 2021 – 2022
Purdue CS Graduate Student Board

Mentor 2021
Purdue Computer Science Graduate Student Board Mentorship Program

Website Administrator 2020 – 2021
Purdue Programming Languages (PurPL)

Talks

KestRel: Relational Verification using E-Graphs for Program Alignment
E-Graph Research, Applications, Practices, and Human-factors Symposium June 2023
Purdue Programming Languages (PurPL) Seminar June 2023

RHLE: Modular Deductive Verification of Relational ∀∃ Properties
Asian Symposium on Programming Languages and Systems (APLAS) December 2022
Purdue Programming Languages (PurPL) Seminar November 2022

Relational Reasoning with Specifications
Purdue Programming Languages (PurPL) Seminar October 2020

Automated API Migration
Purdue Programming Languages (PurPL) Seminar February 2019

Ten Lessons Learned in Ten Years of Software Development
Truman State University Association of Computing Machinery (ACM) April 2019

Growth Hacking: A Software Engineer's Guide to Building a User Base
Truman State University Association of Computing Machinery (ACM) March 2016
DevComo Developer Meetup December 2015

Preparing for a Career in Software Engineering
Truman State University Association of Computing Machinery (ACM) March 2015

Modern Java Devlopment
DevComo Developer Meetup October 2014

Technical Inteviewing Skills
Truman State University Computer Science Senior Seminar October 2013

ISSUED PATENTS

U.S. Patent 10855952, *User engagement computer system and method of using same*, Dec 1, 2020

U.S. Patent 10496973, *Reprogrammable point-of-sale transaction flows*, Dec 3, 2019