

David M. Perry

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EDUCATION

Purdue University

M.S. IN COMPUTER SCIENCE

Spring 2019

West Lafayette, IN

University of Kentucky

B.S. IN COMPUTER SCIENCE

Spring 2013

Lexington, KY

SKILLS

Languages

C • C++ • Python • Assembly

Java • Ruby • PHP • R • Go

LaTeX • HTML • CSS • MySQL

Environments

Linux • Windows • Android

OpenBSD

Libraries/Tools

LLVM • git • scikit-learn

Selenium • WinDbg

OlllyDbg • IDA

Microsoft Detours

Visual Studio

COURSEWORK

Graduate

Software Engineering

Operating Systems

Security

Automated Program Reasoning

Parallel Computing

Networking

Compilers

Algorithms

Modeling and Simulation

Undergraduate

Software Engineering

Operating Systems

Security

Networks

Programming Languages

Algorithms

Theory of Computing

Artificial Intelligence

EXPERIENCE

Purdue University | RESEARCH ASSISTANT

2014 – 2019 | West Lafayette, IN

Worked with advisers, Xiangyu Zhang and Roopsha Samanta, researching topics in the field of software engineering, programming languages, and program verification.

- **Symbolic Execution Optimizations**

- Found optimizations that drastically reduce the time required to symbolically execute programs that are control dependent on large arrays
- Implemented optimizations in the symbolic execution engine KLEE

- **Program Clustering**

- Implemented a tool, SemCluster, that leverages machine learning and program semantics to classify programs based on their bugs and implementation strategies

MIT Lincoln Laboratory | SUMMER INTERN

Summer 2014, 2015 | Lexington, MA

Worked with advisor Hamed Okhravi in the Cyber Analytics and Decision systems group to develop a tool, TRACER, for defending against information leaks and memory disclosures.

Purdue University | TEACHING ASSISTANT

2014 – 2018 | West Lafayette, IN

- Intro. to C Programming (Fall 2018)
- Graduate Software Engineering (Fall 2017)
- Software Testing (Spring 2017)
- Networking (Spring 2014)

Sandia National Laboratory | CYBER DEFENDERS INTERN

Summer 2012 | West Lafayette, IN

Worked with a team of interns researching malware detection, genetic programming algorithms, and super computer simulations.

PUBLICATIONS

Perry, D. M., Kim, D., Samanta, R., & Zhang, X. (2019, June). SemCluster: Clustering of Imperative Programming Assignments Based on Quantitative Semantic Features. In Proceedings of the 40th ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI '19). ACM.

You, W., Liu, X., Ma, S., Perry, D., Zhang, X., & Liang, B. (2019, May). SLF: Fuzzing without Valid Seed Inputs. In Proceedings of the 41st International Conference on Software Engineering (ICSE '19). ACM.

Perry, D. M., Mattavelli, A., Zhang, X., & Cadar, C. (2017, July). Accelerating array constraints in symbolic execution. In Proceedings of the 26th ACM SIGSOFT International Symposium on Software Testing and Analysis (ISSTA '17). ACM.

Huang, J., Aafer, Y., Perry, D., Zhang, X., & Tian, C. (2017, October). UI driven Android application reduction. In Proceedings of the 32nd IEEE/ACM International Conference on Automated Software Engineering (ASE '17). IEEE Press.

Kim, D., Kwon, Y., Liu, P., Kim, I. L., Perry, D. M., Zhang, X., & Rodriguez-Rivera, G. (2016). Apex: Automatic Programming Assignment Error Explanation (OOPSLA'16). ACM.