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Zhe Zhou

Homepage
GitHub
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Education

PhD of Computer Science **2018.8 – present**
Purdue University, Advised by Prof. Suresh Jagannathan

Main courses: Programming Languages, Reasoning about Programs, Compiling and Programming Systems Operating Systems, Pattern Recognition and Decision-Making Processes (GPA: 4.0)

Bachelor of Computer Science **2013.9 – 2017.7**
Peking University, Advised by Prof. Guangyu Sun

Work Experience

Full Time C++ Software Engineer **2017.7 – 2018.7**
Megvii *Beijing, China*

Research Interest

automated verification, type system, property-based testing, specification inference, program synthesis

Skills&Languages

Mostly used: Ocaml, Coq, Z3
Familiar with: Dafny, SML, C, C++, Java, Python, Scala, Haskell

Publication

Data-Driven Abductive Inference of Library Specifications **OOPSLA'21**
***Zhe Zhou**, Robert Dickerson, Benjamin Delaware, and Suresh Jagannathan*
(**Distinguished Artifact**)

Covering All the Bases: Type-based Verification of Test Input Generators **PLDI'23**
***Zhe Zhou**, Ashish Mishra, Benjamin Delaware, and Suresh Jagannathan*
(**Distinguished Paper**)

A HAT Trick: Automatically Verifying Representation Invariants Using Symbolic Finite Automata **PLDI'24**
***Zhe Zhou**, Qianchuan Ye, Benjamin Delaware, and Suresh Jagannathan*
(**Conditional accepted**)

Service

External Review Committee Member **OOPSLA'23**
Artifact Evaluation Committee Member **PLDI'23**

Project

Data-driven Specifications Inference **OOPSLA'21**
Design a data-driven inference procedure which is guided by counterexamples to infer specifications of multiple the blackbox library APIs that are consistent with the given whitebox client code.

Underapproximate Refinement Type System **PLDI'23, IL'24, In progress**
Design a refinement type system that verifies the coverage property of the random test generator.

Machine learning for Program Synthesis **In progress**
Combine MCMC-based approach and transformer neural network to learn proof scripts for given proof goals.

Temporal Refinement Type System **In progress**
Equip standard refinement type system with temporal specifications to verify effectful programs.