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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

refinement types, 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

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, 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   **PLDI'24**

Equip standard refinement type system with temporal specifications to verify effectful programs.