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Zhe Zhou

Homepage GitHub LinkedIn

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

Pecking University, Advised by Prof. Guangyu Sun

WORK EXPERIENCE

Full Time C++ Software Engineer

2017.7 - 2018.7

Megvii

Beijing, China

RESEARCH INTEREST

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

SKILLS&LANGUAGES

Mostly used: Ocaml, Coq, Z3

Familiar with: SML, C, C++, Java, Python, Scala, Haskell, Dafny

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

SERVICE

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

Use the machine learning approaches (e.g., MCMC-based approach, transformer neural network) to learn expected programs.