

5713768264  
West Lafayette, IN  
zhou956@purdue

# Zhe Zhou

Homepage  
GitHub  
LinkedIn

## EDUCATION

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**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

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

## RESEARCH INTEREST

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

## SKILLS&LANGUAGES

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

## PUBLICATION

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**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

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

## PROJECT

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**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.*