

Ziyi Yang

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Research Interests

- Program synthesis: specification synthesis, deductive synthesis
- Formal methods: constraint solving, automated reasoning
- Others: program transformation, logic programming

Education

SoC, National University of Singapore, Singapore, Singapore Aug 2021 – Ongoing
Ph.D. in Computer Science
Advisor: Prof. Ilya Sergey

EECS, Peking University, Beijing, China Sept 2016 – July 2020
B.Eng in Software Engineering
Advisor: Prof. Zhenjiang Hu

Publications and Submissions

Inductive Synthesis of First-Order Formulas

Ziyi Yang, George Pirlea, and Ilya Sergey

Under submission

Inductive Synthesis of Inductive Heap Predicates [PDF](#)

Ziyi Yang, and Ilya Sergey

To appear in Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA 2025)

DSLs in Racket: You Want It How, Now? [PDF](#)

Yunjeong Lee, Kiran Gopinathan, **Ziyi Yang**, Matthew Flatt, and Ilya Sergey

Published in 17th ACM SIGPLAN International Conference on Software Language Engineering (SLE 2024)

Higher-Order Specifications for Deductive Synthesis of Programs with Pointers [PDF](#)

David Young*, **Ziyi Yang***, Ilya Sergey, and Alex Potanin

Published in 38th European Conference on Object-Oriented Programming (ECOOP 2024)

A Lazy Desugaring System for Evaluating Programs with Sugars [PDF](#)

Ziyi Yang*, Yushuo Xiao*, Zhichao Guan, and Zhenjiang Hu

Published in 16th International Symposium on Functional and Logic Programming (FLOPS 2022)

* *Equal contribution*

Teaching and Mentoring

Mentoring Nay Chi Naing on Capstone project *Deductive synthesis with accumulator* 2024

TA of Programming Language Implementation, CS4215 at NUS Sem2, AY2022-23

TA of Algorithmic Mechanism Design, CS5461/4261 at NUS Sem1, AY2023-24

Programming Skills (with decreasing proficiency)

- (Knowledgable) Clingo, C/C++, Racket, Prolog, Datalog
- (Avarage, can use) Python, Z3, Scala, Java, OCaml
- (Played with) JavaScript, Haskell, Lean, SQL, Picat, Flix