

Wen Fan

Email: fan372@purdue.edu
[Homepage](#)
[Google Scholar](#)

EDUCATION

Purdue University

Major: Electrical and Computer Engineering
Degree: PhD
Advisor: Prof. [Jenna DiVincenzo](#)

West Lafayette, USA
Aug. 2022 – Present

University of Science and Technology of China (USTC)

Major: Computer Science and Technology
Degree: Bachelor
GPA: 3.75/4.3

Hefei, China
Sept. 2018 – Jun. 2022

RESEARCH INTEREST

Program Verification, Software Engineering, Artificial Intelligence

PUBLICATIONS

Evaluating the Ability of Large Language Models to Generate Verifiable Specifications in VeriFast [paper][code]

Marilyn Rego*, Wen Fan*, Xin Hu, Sanya Dod, Zhaorui Ni, Danning Xie, Jenna DiVincenzo, Lin Tan. The 2nd ACM international conference on AI Foundation Models and Software Engineering (FORGE 2025).

RESEARCH PROJECTS

Evaluating LLMs on Generating Specifications for Separation Logic

Advisor: Prof. Jenna DiVincenzo

Purdue University
Sept. 2024 – Now

Program verification checks whether a program satisfies a specification. Given a program and partial specification, we evaluate how well LLMs can generate full specifications based on separation logic, including the number of verification errors and the preservation of functional behavior of the specifications and source code.

Optimizing Gradual Program Verifier with Parallelism

Advisor: Prof. Jenna DiVincenzo

Purdue University
Jun. 2024 – Aug. 2024

The Gradual C0 verifier uses symbolic execution to gradually verify programs written in a subset of C. However, its execution on branches is sequential, which limits its performance on large programs. In this work, I parallelized Gradual C0's symbolic execution and reduced static verification time by 41%. [poster]

- Discovered that the performance of Gradual C0 is bottlenecked in sequentially executing branches
- Designed and implemented parallel execution of branches
- Discovered that static verification is accelerated by enabling parallelism

Optimizing Cflow (a Static Taint Analysis on Java Application)

Advisor: Prof. Tianyin Xu

Remote intern at UIUC
Jul. – Oct. 2021

Cflow has two limitations: non-deterministic output and many false-positives, and I tried to solve them.

- Added flow information for each statement to solve the non-deterministic path reconstruction
- Implemented points-to analysis and field-use analysis to handle false positives

COURSE PROJECTS

DSLAB (Sharded and Fault Tolerant Distributed Key-Value Store) CS505 project at Purdue University

DSLAB is a lab project for building and debugging distributed systems.

- Implemented Primary-Backup, Paxos and Two Phase Commit protocols.
- Debugged to pass more than 90% of tests (including searching tests on corner cases).

Tiny MIPS Pipelined CPU

Computer Organization and Design Project at USTC

This lab builds a 5-staged pipelining CPU of simplified MIPS instruction set on FPGA, which runs a Fibonacci Number calculator as a simple application.

- Implemented the circuit in VeriLog
- Tested both on waveform and FPGA

TALKS

Wen Fan, “Evaluating the Ability of Large Language Models to Generate Verifiable Specifications in VeriFast.” The 2nd ACM International Conference on AI Foundation Models and Software Engineering (FORGE 2025, co-located with ICSE 2025), April 2025.

Wen Fan, “Optimizing Gradual C0 Program Verifier by Adding Parallelism.”

Poster presentation at the Purdue ECE Symposium, October 2024.

TEACHING ASSISTANT EXPERIENCE

Mathematical Logic, USTC

Spring 2021

CS252 Systems Programming, Purdue University

Fall 2022, Spring 2023, Spring 2024

CS251 Data Structures, Purdue University

Fall 2023

AWARDS

Huawei Scholarship

Nov. 2020

Huaxia Talent Program at USTC

Jun. 2022

SKILLS

Programming Languages: C, C++, Java, Python, Go

Tools: VeriFast, Git, Linux, Docker, JetBrains IDE, LaTeX, Google Docs/Slides/Sheets

Algorithms: Leetcode 100+

Languages: English, Chinese