Yihui Wang

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EDUCATION

Nanjing University Sep 2019 - Jun 2023

Software engineering Bachelor Software Institute

GPA:88.4/100

Knowledge Base

- Software Engineering and Computing (94/100)
  - This course introduces core concepts about programming (from lambda calculus to OOP), principles of software architecture, and effective ways to organize documents.
- Introduction to Computer System (96/100)
  - This course is about the basic concepts of computer system, including data representation, translation from high-level languages to the assembly languages, linking, and execution of binary executables.
- Algorithm Design & Analysis (90/100)
  - This course introduces classic algorithms (including sorting, hashing, dynamic programming, etc.), principles of algorithm design, and complexity analysis for algorithms.

Language Skill

- **Languages:** GRE:329(AW:4.0 V: 161 Q: 168) TOEFL: 108(R:29 L:30 S:22 W:27)

Research Interest

Program Analysis, Software Engineering, Computer System

Project Experience

Implement side-effect analysis and purity analysis

- Side-effect analysis and purity analysis mainly detect whether Java methods affect objects defined out of the given method through pointer analysis. The analysis results can be used to optimize the performance and execution efficiency of the method.
- **Implement Purity Analysis**, based on VMCAI 2005: Purity and Side Effect Analysis for Java Programs.
- **Implement Side-effect Analysis(iterative version)**, based on ISSTA 2002: Parameterized object sensitivity for points-to and side-effect analyses for Java.
- **Optimize the performance of side-effect analysis** by introducing a worklist mechanism.
- Familiar with the process from reading to implementing the international top conference paper IDEA; Familiar with the process of improving inadequacy of the research algorithm; Have a deeper understanding of Java static analysis, especially pointer analysis;

JVM Emulator

- To better understand the running mechanism of JVM, referred to classic books and the JVM manual, a JVM emulator that can run simple application programs is implemented, which mainly simulates JVM class loading, JVM storage structure, and bytecode execution interpreter.
- Practice a computer language's bottom running mechanism; Some basic understanding of Java mechanisms such as class loading, static collectors, etc. Exercise the ability to read manuals to realize functions and software;

Societies and organizational experiences

Teaching Assistant for the course "Software Engineering and Computing

- Served as a **teaching assistant** for "Software Engineering and Computing" containing a total of 230 students;

Peer mentor of Software Institute

- It is mainly responsible for answering questions for students in their study and life, alleviating the discomfort of learning and life, and having a good relationship with students and passing the examination smoothly during their tenure.