

Xie Li (李颢)

Master Student in CS

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Personal Information

Gender: Male
Day of Birth: July 7, 1997
Place of Birth: Kunming, Yunnan, P.R.China
Nationality: The People's Republic of China

Research Interests

Verification and Static Analysis

- Proving functional correctness of a given program via inference and model checking, including research on **invariant synthesis** for programs, computation **models** and **logic** in model checking problem, etc.
- Proving termination of loop programs via **ranking function**.

Education

University of China Academy of Sciences *Sep. 2019 – now*

Master Student of Science in Computer Science and Technology

Supervisor: Lijun Zhang

University of China Academy of Sciences *Sep. 2015 – Jun. 2019*

Bachelor of Science in Computer Science and Technology

GPA: 3.69

Supervisor: Lijun Zhang

Expertise and Technical Strengths

Programming: C/C++, Python, Java, \LaTeX
Skills: Familiar with development based on SMT solving tools like Z3-SOLVER.
 Familiar with network programming (Network Layer, Data Link Layer).
Language: Chinese (Native), English

Research Experience

Research Experience 1**Collaborators: Zhilin Wu et al.***Dec. 2019 – Nov. 2020 @ UCAS, Beijing, P.R.China*

Engineering Project on a closed cycle verification tool, which provides a platform for modelling, verification and code generation of network protocols. Responsible for the implementation of **code generation** module.

Research Experience 2**In-Group Work.***May. 2020 – July. 2020 @ UCAS, Beijing, P.R.China*

Research Project on ranking function synthesis to prove termination of loop program. Extend the existing SVM-based algorithm on synthesis of nested ranking functions to the synthesis of multi-phase ranking functions. Implemented the extended algorithm in prototype tool SVMRANKER and implementation can be found in Github repository.

Research Experience 3**Collaborators: Zhilin Wu et al.***Apr. 2018 – Oct. 2020 @ UCAS, Beijing, P.R.China*

Research Project (Bachelor thesis) on computing the reachability relation of one-counter automata. Helped constructing the algorithm and implemented the algorithm for the computation in prototype tool OCAREACH and the implementation can be found in Github repository.

Publications

2020

Xie Li, Taolue Chen, Zhilin Wu, and Mingji Xia; *Computing Linear Arithmetic Representation of Reachability Relation of One-counter Automata*; SETTA 2020.

Xie Li, Yi Li, Yong Li, Xuechao Sun, Andrea Turrini, Lijun Zhang; *SVMRanker: A General Termination Analysis Framework of Loop Programs via SVM*; ESEC/FSE 2020 Tool Demos.

Activites

2020

Nov. 24 – Nov. 28, Beijing, SETTA 2020 conference.

Nov. 6 – Nov.16, Online, ESEC/FSE 2020 conference.

2019

Nov. 5 – Nov.9, Shenzhen, ICFEM conference.

2018

Feb. 8 – March. 1, Germany, visit Holger Hermanns in Saarland University.

Updated January 2021