# Rongchen Xu (徐荣琛)

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## *Education*

**Tsinghua University**                                                   August 2019 - Current

Software Engineering, MSE, School of software                                        Beijing

- GPA：3.80/4.00 (Top 25%)

**Harbin Engineering University**                                    August 2015 - June 2019

Computer Science and Technology, Bachelor, College of Computer Science and Technology                Harbin

- Academic performance：92.49 (Rank 1/180), overall performance：95.49 (Rank 1/180)
- Awards: National scholarship, Merit student of Heilongjiang province, Top ten learning pacesetter of Harbin Engineering University, Outstanding graduates of Harbin Engineering University, Third class scholarship of MIIT for innovation, etc.

## *Contest & Project Experience*

### Algorithm and Programming Contests

Golden medal in Heilongjiang Collegiate Programming Contest, Silver medal in China Collegiate Programing Contest (CCPC), Bronze Medal in ACM-ICPC Asia Regional Contest (EC-Final), Second prize in Collegiate Computer Systems & Programming Contest, etc.

### Distributed Online Judge System for Programming Contest

The project uses Python Flask as the web framework, RabbitMQ as the distributed message middleware for tasks, and an open source evaluation module ljudge as the judger. This project is used in school-level programming contests and as a training platform for NOIP in Heilongjiang Province.

### Loop Invariant Generation for Buffer Overflow

This project is based on LLVM IR and Boogie intermediate verification language. It uses program synthesis technology to generate loop invariant candidates and Houdini to check. This project has now been integrated into the existing technical framework of the related company and has been practically used.

## *Research Experience*

My research field now is program analysis and verification. Personal research focuses on loop invariant synthesis and data-driven program proof argument generation. One publication (first author, CCF-A) with several others submitted.

- **Rongchen Xu**, Fei He and Bow-Yaw Wang. Interval Counterexamples for Loop Invariant Learning. ESEC/FSE 2020: ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering. (CCF-A)

## *Campus Experience*

### Teaching Assistant of "Software Analysis and Verification", Tsinghua University

Discuss the teaching arrangement with the teacher. Design the form of the final project and implement its framework. Check the students' homework and final exam.

### Graduate Association, School of Software, Tsinghua University

As a vice minister, I organized the chorus competition of the university (eventually won a gold medal), an inter-school student dance event, and an inter-school programming education event.

## *Professional Skills and Others*

**Programming language**: Frequent user of C/C++, Python, C#, Java and knowledgeable about JavaScript, Haskell

**Software**: Familiar with Microsoft Office suite, proficient in Latex and some uses of MATLAB

**Language:** Chinese (mother tongue), English (CET-6)

**Hobbies:** Photography, Travelling, Food