

# Cheng Ding

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## Education

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**University of Science and Technology of China (USTC), Hefei, Anhui, China**

Sep 2020- Jul 2024 (expected)

**Bachelor of Computer Science**

**GPA:** 3.76/4.3 (88.6/100)

**Core courses:** Operating Systems(Honor) (99/100, top 1), Computer Programming A (96/100), Algebra Structure (96/100), Introduction to Computing Systems A (94/100), Foundations of Algorithms (93/100), Parallel Computing (92/100), Computer Organization and Design(Honor) (90/100), Principles and Techniques of Compiler(Honor) (89/100),

## Research Interests

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System Reliability, Software Engineering, Distributed Systems, Formal Methods, Programming Language

## Research Experience

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**Research Assistant @UIUC**

Jul 2023-present

***Build Runtime Verification Tool for Go Programs***

**Advisor:** Prof. *Tianyin Xu*, UIUC, Prof. *Owolabi Legunsen*, Cornell

- Designed for verifying infrastructures of cloud systems like Kubernetes
- Designed and implemented a practical Runtime Verification tool for Go : GoMOP (still under active development).
  - Could report violations before it actually happens and make in-situ failure recovery actions in production
  - Could monitor multiple specifications simultaneously and support multiple specification languages (LTL, FSM, ERE, etc).
- Implemented parametric monitoring based on 5 different algorithms.
  - Achieve online monitoring which can report the violation promptly.
  - Reduce runtime overhead using enable sets of events as a heuristic method.
- Used GoMOP to verify multiple widely-used open-source Go libraries including cron, dns, etc
- Planning to submit to a top Software Engineering conference.

## Project Experience

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**Distributed Dataset Platform for sharing Images and Videos**

Mar 2022-Jul 2022

(<https://github.com/OSH-2022/x-WowKiddy>)

- Constructed the distributed file system based on JuiceFS.
- Allowed users to preview videos in the web page by converting them into Sprite pictures through ffmpeg.
- Used Graph Database (Neo4j) to build connection of files based on their meta info and tags.
- Used Prometheus and Grafana to build a monitor of the system.

## Teaching Experiences

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Teaching Assistant of *Computer Programming A* @USTC, Teaching Assistant of *Operating Systems(H)* @USTC

## Skills

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- Computer Languages&Skills: C/C++,Go, Java, Python, Assembly Language, GDB, LATEX, Docker, MySQL, Git
- Languages: English(TOEFL 104, S23), Mandarin(native)