

# YIBO HUANG

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## OVERVIEW

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- A second year master student in Software Engineering at Shanghai Jiao Tong University.
- I work in the Institute of Parallel and Distributed Systems (IPADS), advised by professor Rong Chen and assistant professor Jinyu Gu.
- Currently, my major research interests include Operating Systems and Cloud Computing.

## EDUCATION

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**Shanghai Jiao Tong University** Sep 2020 – Present

Master student in software engineering advised by Rong Chen and Jinyu Gu.

**Xidian University** Sep 2016 – Jun 2020

B.Eng. in communication engineering advised by Yang Gao.

## PROJECTS

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**ChCore: IPADS self-developed Microkernel Operating System** Sep 2020 – Present

I have been working with a team led by professor Haibo Chen and assistant professor Jinyu Gu on the development of ChCore. I mainly worked on the following things:

- Porting ChCore to RISC-V architecture.
- Porting ChCore to x86-64 real machine.
- Enabling PCID/ASID for ChCore in x86-64, AArch64 and RISC-V architectures.
- Implementing an unified page cache layer for user-level file systems.
- Implementing several user-level device drivers.

## RESEARCH

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Since Feb 2022, I have been working on a new resource isolation mechanism for serverless computing. Related work in this area include Amazon's Firecracker (NSDI'20), Google's gVisor and FAASM (ATC'21), etc. My goal is to design and implement a new resource isolation mechanism that addresses the shortcomings of existing mechanisms.

So far, I have made the following efforts:

- Classifying various existing resource isolation mechanisms and analyzing their advantages and disadvantages from multiple dimensions.
- Identifying the common shortcomings of existing resource isolation mechanisms.
- Exploring the design space of resource isolation mechanisms and looking for potential ways to solve the problem.

## TEACHING

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**SJTU CS1501 Programming - Ideas and Methods** Fall 2021

- TA in fall 2021.
- Worked with assistant professor Mingkai Dong.

## RECENT AWARDS & ACHIEVEMENTS

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IPADS fellowship Sep 2021

IPADS ChCore contribution award Jun 2021