

# Zhuo Chen

(+86) 191-1535-8678    zhuochen0624@gmail.com    deskchen    zhuochen.me

## Education

<b>Duke University</b>	2025/08 - Present
Doctor of Philosophy in Computer Science	Durham, NC, USA
<b>Nanjing University</b>	2021/09 - 2025/06
Bachelor of Science in Computer Science and Technology	Nanjing, China
<b>Yale University</b>	2024/07 - 2025/01
Visiting Undergraduate Researcher in Computer Science	New Haven, CT, USA

## Publications

- MobiSys'25 Hopter: a Safe, Robust, and Responsive Embedded Operating System** [pdf]  
Zhiyao Ma\*, Guojun Chen, **Zhuo Chen**, Lin Zhong  
In Proceedings of the 23rd ACM International Conference on Mobile Systems, Applications, and Services(MobiSys'25), Anaheim, California, US, June 2025.
- arXiv'24 HardRace: A Data Race Monitor for Production Use** [pdf]  
Xudong Sun\*, **Zhuo Chen**, Jingyang Shi, Yiyu Zhang, Peng Di, Jianhua Zhao, Xuandong Li, Zhiqiang Zuo  
arXiv preprint arXiv:2410.18412, 2024.

## Research Experience

- Hopter: Rust-based Embedded Operating System** hopter-project    2024/09 - 2024/12  
Efficient Computing Lab, Yale University, advised by Professor Lin Zhong    New Haven, CT, USA
- Safe: Compiler-inserted stack-prologue checks prevent overflows and enforce Rust's memory safety.
  - Robust: Panic unwinder plus concurrent task restarts enable rapid recovery with minimal downtime.
  - Responsive: Soft-lock synchronization keeps IRQs enabled for immediate, zero-latency interrupt handling.
- HardRace: Dynamic Data Race Monitor for Production Use**    2023/10 - 2025/03  
Software Engineering Group, Nanjing University, advised by Professor Zhiqiang Zuo    Nanjing, China
- Hybrid Tracing & Pruning: Selectively inserts Intel PTWRITE only at static "may-race" points—pruned by flow-sensitive value-set and must-race-free analyses to shrink instrumentation overhead while keeping full coverage.
  - Low Overhead & Full Coverage: Adds only 2.4% average slowdown on PARSEC, SPLASH-2x, and real workloads (MySQL, Nginx) while detecting every race with zero false negatives in production runs.

## Honor and Awards

Excellent Graduate, Nanjing University	2025
Undergraduate Fundamental Discipline Scholarship (First Prize), Nanjing University	2024
Huawei Scholarship	2024
Changjiang Su You Scholarship	2023
People's Scholarship	2022
Merit Student, Nanjing University	2022