

# Zhuo Chen

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## Education

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

## Publications

- Internetware'26** **HardRace: A Data Race Monitor for Production Use** [pdf]  
Xudong Sun\*, **Zhuo Chen**, Jingyang Shi, Yiyu Zhang, Peng Di, Fengwei Zhang, Jianhua Zhao, Zhiqiang Zuo  
In Proceedings of the 17th International Conference on Internetware(Internetware'26), Gold Coast, Australia, July 2026.
- 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. (**Best Poster Award - Runner Up**)

## Research Experience

- Hopter: Rust-based Embedded Operating System** 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.

## Honors 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