

PhD/Intern Hiring @Rice

#1 Research profile and what we want to achieve.

Research Profile.

- Yuke Wang is the incoming tenure-track assistant professor (2025 Fall) in Department of Computer Science at [Rice](#) University. Yuke got his Doctor of Philosophy (Ph.D.) in the Department of Computer Science at the University of California, Santa Barbara ([UCSB](#)) and worked with Prof [Yufei Ding](#). He got his Bachelor of Engineering (B.E.) in software engineering from the University of Electronic Science and Technology of China ([UESTC](#)) in 2018.
- Yuke's research interests include **Systems & Compiler for Deep Learning** and **Parallel/Distributed Programming**. His research covers a wide spectrum of deep learning applications (e.g., graph neural networks and deep learning recommendation models) and their runtime performance optimization on heterogeneous platforms like GPUs.
- Yuke's research work has been published at top-tier system venues (20+ publications including OSDI, ASPLOS, USENIX ATC, PPOPP, SC) and open-sourced for future research and industry adoption like NVIDIA.
- Yuke's research is recognized by [NVIDIA Graduate Fellowship](#) 2022 (Top-10 out of global applicants).
- See more details: <https://wang-yuke.com>.

Research direction (include but not limited to).

- **Efficient DL**. More Micro-scoped system challenges by focusing on the algorithm and kernel optimizations of DL computation.

- Example topic: Metrics (e.g., Latency/Throughput, Energy, QoS)-driven kernel optimizations for diverse DL models like LLMs, GNNs, and DLRLMs on accelerators (e.g., GPUs, LPUs, IPUs).
- Prior efforts: [GNNAdvisor](#) [OSDI'21], [QGTC](#) [PPoPP'22], [TC-GNN](#) [USENIX ATC'23].
- **Scalable/Portable DL.** More Macro-scoped system challenges by focusing on the interplay among different devices and heterogeneous platforms.
 - Example topic: Efficient mapping/scheduling of DL models (e.g., MoEs, Multimodal LLMs, Deep Reinforcement Learning) for different purposes (e.g., Training, Serving, and Fine-tuning) across various platforms (e.g., HPC clusters, and edge devices on embodied AI agents).
 - Prior efforts: [MGG](#) [OSDI'23], [El-Rec](#) [SC'22], [RAP](#) [ASPLOS'24], [OPER](#) [USENIX ATC'24].
- **Secure DL.** More safety-driven system challenges by focusing on the robustness and failure-resiliency of the DL systems.
 - Example topic: Failure-tolerated DL training/inference, Privacy-Preserving DL.
 - Prior efforts: [ZENO](#) [ASPLOS'24], [Faith](#) [ATC'22], [UAG](#) [AAAI'21]
- Other directions/research interests in MLsys are always welcome and open for discussion.

#2 What we can provide.

- Financial Support for PhD.
 - First year PhD fellowship (Full Tuition + Stipend) guaranteed by department.
 - Second year and onwards Research Assistantship (Full Tuition + Stipend) guaranteed by Advisor.
 - Additional support for conference registration and travel expenses.

- Collaborations and potential internship/visiting opportunities.
 - [UC San Diego](#) (PICASSO Lab)
 - [Pacific Northwest National Laboratory](#) (High-Performance Computing)
 - [NVIDIA Parabricks](#) (Genomic Processing Pipeline)
 - [NVIDIA Research](#) (Programming Systems and Applications Research)
 - [Microsoft Research](#) (Research in Software Engineering)
 - [Amazon AWS AI](#) (LLMs, Graph Learning, and Deep Learning Recommendation Model)
 - [Meta/Facebook](#) (PyTorch)
- Summer internship in Industry for PhDs.
 - Strongly encourage for mid to senior (2 year+) PhD for seeking summer internship in Industry.
 - Detailed guidance and support for interview preparation.

#3 What we are looking for.

- Self-motivated and willing to learn new skills and knowledge.
- Enthusiastic about the latest technologies in AI/ML and Systems and explore various research possibilities.
- Willing for collaboration and communication.
- Resiliency to overcome challenges and failures.
- Persistent with clear and concrete research objectives.
- Familiar with CUDA and C++ programming skills would be preferred.
- Familiar with existing Deep learning frameworks like PyTorch would be a good plus.
- Proficiency in English (TOEFL 100+ would be preferred).
- See more application details:
<https://csweb.rice.edu/academics/graduate-programs/admission/graduate-program-application>

#4 How to reach out.

- Feel free to drop me an email (yuke.wang96@gmail.com) with your (CV/Resume, Transcript) and a short paragraph of your research interest and plan (if have one).
- Summer remote internships for undergrad, masters, and visiting PhD is always open and welcome.
- Internship/collaboration before the PhD application at Rice is highly encouraged.
- Plan to hire 2 PhD students in the incoming 2025 Fall Semester.

#5 Rice University.

- Rice University is a prestigious private research university located in Houston, Texas. Rice offers more than 50 undergraduate majors where students can take full advantage of small class sizes, thanks to the university's 6:1 student-to-faculty ratio.
- Rice ranks **#17** in US National Universities and **#27** in CS according to US News 2024.
- **CS Graduate Program.** Rice CS Graduate Program is known for its relatively small size but high-quality research and education. Several recent CS PhD graduates at Rice have joined top-tier US Universities (e.g., University of Minnesota and Rutgers) as tenure-track assistant professors.
- **Location:** Situated on a 300-acre campus near the Houston Museum District and the Texas Medical Center, offering access to cultural attractions and healthcare institutions.

#6 Houston City.

- Houston is the fourth-most populous city in the United States, known for its diverse neighborhoods and cultural richness. Houston is

recognized worldwide for its energy industry—particularly for oil and natural gas—as well as for biomedical research and aeronautics.

- **Living:** Houston features its relatively lower cost of living, better safety, and a strong job market compared to most major US cities.
- **Chinatown:** Located in the southwest, Houston's Chinatown offers a unique blend of Asian cultures with interesting shops and restaurants.
- **Travel:** The city is served by two major airports:
 - George Bush Intercontinental Airport (IAH) offers extensive domestic and international connections.
 - William P. Hobby Airport (HOU) is conveniently located just 7 miles from downtown Houston.
- See more details: <https://en.wikipedia.org/wiki/Houston>