

Chanhee Lee

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RESEARCH INTERESTS

- CXL-based memory systems, AI systems and software platforms, on-device and edge LLMs, AI performance analysis, and AI workloads visualization.

SUMMARY

- AI systems and software platform engineer with 9+ years at Samsung Research and recent postdoctoral work on CXL-based memory systems and on-device LLMs
- Designed production AI inference platforms for Android/TVs and distributed software frameworks for IoT
- Interested in LLM optimization, AI system HW/SW codesign, and web-based AI workloads visualization

PROFESSIONAL EXPERIENCE

- **University of Central Florida**, Orlando, FL, United States
Postdoctoral Researcher, Department of Computer Science **Dec. 2024 - Present**
 - Designed memory-efficient LLM inference for CXL memory systems (Gem5 simulation).
 - Extended Linux kernel for fault-tolerant non-volatile memory (NVM) in real-time edge systems [[linux_pmo](#)].
 - Lead 7 students to analyze on-device mlc-llm/llama.cpp performance and develop a personalized web AI agent.
- **Arizona State University**, Tempe, AZ, United States
Visiting Scholar (Voluntary), School of Computing and Augmented Intelligence **Jan. 2024 - Dec. 2024**
 - Led on-device LLM personalization (Android + knowledge graphs) [[EMSOF WIP 2024](#)] [[WWW Short 2025](#)].
 - Built Rust reactive engine in Lingua Franca (CAP-theorem guarantees) [[lf-rust-rti](#)].
- **Samsung Electronics Inc.**, Seoul, Republic of Korea
Staff Engineer/Best Reviewer, Platform Team, Samsung Research **Aug. 2014 - Dec. 2024**
 - Led platform team demo at Samsung Research annual showcase (**Top 3/10 major divisions**, ~2K researchers), GPU/NPU inference + SmartTrainer TV app
 - Led SmartFS filesystem development (fixed power-cut crashes for Samsung home appliance production boards).
 - Ported Oxigraph graph DB REST APIs to Android for edge AI workloads.
 - Led OCF IoTivity D2D framework for ARTIK production boards (1st author, [Springer LNCS ICIoT 2018](#)) [[RT-OCF](#)].
 - Led various overseas research teams to develop GUI-based performance analysis and visualization tools.

EDUCATION

- **Ph.D.** Electrical Engineering & Computer Science, Seoul National University 2014
- **M.S.** Computer Science, KAIST 2009 | **B.S.** Computer Science, KAIST 2007

SKILLS

- **Languages:** Rust, C/C++, Python, Java, React, NodeJS
- **AI/ML:** llama-cpp/MLC-LLM, PyTorch/TensorFlow, LLM workload analysis/visualization, on-device ML optimization
- **Platforms:** CXL/Gem5, Linux kernel, Docker, CI/CD, embedded systems, visualization framework, reactive systems

PUBLICATIONS

- **8 conference papers** (EMSOF, WWW) + **2 journal papers** (JSPS, TECS) | 250+ citations [[Google Scholar](#)]

AWARDS & LEADERSHIP

- **UCF Preeminent Postdoc Fellow (2025-27)**, **Samsung Ph.D. Scholarship (2013)**
- **Invited Talk:** "Remote inference with IoT" (Hanyang Univ., 2023)
- **Reviewer:** ISCA/ASPLOS/HPCA/PPoPP/LCTES (2025) and ICS (2026), **ACM Member**