Wonsup Yoon

Ph.D. Student, KAIST

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EDUCATION

- **KAIST**   Republic of Korea
  Ph.D. in Computer Science; GPA: 4.01/4.30   *Sep. 2019 – present*
    ○ **Co-advisors**: Sue Moon and Youngjin Kwon.

- **KAIST**   Republic of Korea
  M.S. in Computer Science; GPA: 3.95/4.30   *Sep. 2017 – Aug. 2019*
    ○ **Co-advisors**: Sue Moon and Youngjin Kwon.
    ○ **Thesis title**: A memory management layer for disaggregated data center.

- **Yonsei University**   Republic of Korea
  B.S. in Electrical and Electronic Engineering; GPA: 4.01/4.30   *Mar. 2013 – Feb. 2017*
    ○ **Minor**: Computer Science

EXPERIENCE

- **Advanced Networking Lab, KAIST**   Republic of Korea
  Teaching Assistant   *2017 - 2022, 2024*
    ○ **Introduction to Computer Networks (CS341)**. Taught and developed KENS (KAIST Educational Network System) project assignments. Worked on extending KENS for memory safety, build system, development environment, and teaching ecosystem.
    ○ **Distributed Algorithms and Systems (CS443)**. Taught Raft consensus algorithm project assignments.
    ○ **Graduate Operating Systems (CS530)**. Taught operating system project assignments based on OSv unikernel.

- **Institute of Language and Information Studies, Yonsei University**   Republic of Korea
  Technical Assistant and Software Developer   *2013 - 2017*
    ○ **Yonsei Corpus Searcher**. Developed an efficient search-filter-sort application for Yonsei Korean Corpus.
    ○ **Yonsei Dictionary Searcher**. Developed an efficient web-based and .net-based search applications for Yonsei Korean Dictionary.
    ○ **Dictionary searcher for National Institute of Korean Language**. Developed a dictionary search web application for Korean language.
    ○ **TOPIK Word Searcher for National Institute for International Education**. Developed an education level-based dictionary search application used for TOPIK (Test Of Proficiency In Korean).

RESEARCH INTEREST

My broad research interests are:

- **Virtualization**: unikernels, microVM, and containers.

- **Networking**: RDMA, virtio, and programmable NICs.

- **Datacenter**: resource disaggregation, micrsecond-scale systems, and tail-optimzied systems.

AWARDS AND HONORS

- **SIGCOMM '23 Travel Grants (USD 1500)**   ACM SIGCOMM
  Awarded for travel to present at the ACM SIGCOMM 2023 conference.   *Sep. 2023*

- **Best Paper Award**   APNet'23
  Awarded for the paper "Host Efficient Networking Stack Utilizing NIC DRAM".   *Jun. 2023*

- **Best TA Award**   KAIST
  Awarded for teching the class Introduction to Computer Networks (CS341).   *Jul. 2021*

- **Awarded High Honors** Yonsei University
  Awarded for outstanding performance in courseworks (Top 3%). *Aug. 2016 and Feb. 2017*

- **The National Scholarship for Science and Engineering** Korea Student Aid Foundation
  Awarded for outstanding performance in courseworks. *Dec. 2015 and Sep. 2016*

- **Yonsei Internal Scholarship** Yonsei University
  Awarded for outstanding performance in courseworks. *Sep. 2015 and Mar. 2016*

- **Awarded Honors** Yonsei University
  Awarded for outstanding performance in courseworks (Top 10%). *Feb. 2015, Aug. 2015, and Feb. 2016*

- **Korea Telecom Scholarship** Korea Telecom
  Awarded for outstanding performance in courseworks. *Aug. 2015*

PUBLICATIONS

- **Wonsup Yoon**, Jisu Ok, Sue Moon, and Youngjin Kwon. Poster: Designing a Memory Disaggregation System for Cloud. In *Proceedings of the ACM SIGCOMM 2023 Conference Posters and Demos (SIGCOMM '23 Posters and Demos)*. 2023.

- Byeongkeon Lee, Donghyeon Lee, Jisu Ok, **Wonsup Yoon**, and Sue Moon. Host Efficient Networking Stack Utilizing NIC DRAM. In *Proceedings of the 7th Asia-Pacific Workshop on Networking (APNet)*. 2023.

- **Wonsup Yoon**, Jisu Ok, Jinyoung Oh, Sue Moon, and Youngjin Kwon. DiLOS: Do Not Trade Compatibility for Performance in Memory Disaggregation. In *Proceedings of the Eighteenth European Conference on Computer Systems (EuroSys)*. 2023.

- **Wonsup Yoon**, Jinyoung Oh, Jisu Ok, Sue Moon, and Youngjin Kwon. DiLOS: adding performance to paging-based memory disaggregation. In *Proceedings of the 12th ACM SIGOPS Asia-Pacific Workshop on Systems (APSys)*. 2021.

- **Wonsup Yoon**, Jinyoung Oh, Sue Moon, and Youngjin Kwon. Accelerating disaggregated data centers using unikernel. In *Proceedings of the ACM SIGCOMM 2020 Conference Posters and Demos (SIGCOMM '20 Posters and Demos)*. 2020.

- Keunhong Lee, Jeehoon Kang, **Wonsup Yoon**, Joongi Kim, and Sue Moon. Enveloping Implicit Assumptions of Intrusive Data Structures within Ownership Type System. In *Proceedings of the 10th Workshop on Programming Languages and Operating Systems (PLOS@SOSP)*. 2019.

PROFESSIONAL ACTIVITIES

- **Eurosys'22 Shadow PC** EuroSys
  Served as a member of a shadow PC. *2022*