

SEONGJU LEE (성주)

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RESEARCH INTEREST

- * Compiler-level solutions for performance and efficiency on heterogeneous systems
- * Compiler optimization for DL Applications on CPU/GPU/NPU-based systems
- * Efficient edge computing considering network overhead and energy consumption
- * Specialties: Heterogeneous/Edge Computing, Compiler Optimizations, GPGPU

EDUCATION

03/2021 – 02/2023	Hanyang University, Seoul, Korea
	- M.S. in Computer Science Engineering (Advised by Prof. Yongjun Park)
03/2017 – 02/2021	Hanyang University, Seoul, Korea
	- B.S. in Computer Science Engineering

EXPERIENCE

03/2021 - Present	Hanyang University, Seoul, Korea
	- <i>Master of Science</i> , Department of Computer Science
	- Compiler-level optimizations for parallel execution of vision applications on heterogeneous systems
	- Latency-aware inference with server-edge collaboration
	- GPU-NVDLA parallelization on NVIDIA embedded boards
07/2019 – 02/2021	Hanyang University, Seoul, Korea
	- <i>Bachelor of Science</i> , Department of Computer Science
	- Compiler-level workload distribution for vision applications on the multi-GPU system
	- NNStreamer pipeline construction for an efficient video-based object detection system
03/2020 – 02/2021	Sankun, Seoul, Korea
	- National study-work program (worked full-time during vacations)
	- Frontend/Backend web service development
	- Data acquisition and management

PUBLICATIONS

International Conference

- [1] ICCD'21 (BK1) **Legion: Tailoring Grouped Neural Execution Considering Heterogeneity on Multiple Edge Devices**

- Kyunghwan Choi*, **Seongju Lee***, Beom Woo Kang, and Yongjun Park
(*Equal contribution)

- The 39th IEEE International Conference on Computer Design (ICCD), Oct. 2021

Domestic Conference

- [1] KSC'22 임베디드 디바이스의 이종 연산 장치를 활용한 협력 추론 분석

- **Seongju Lee**, Joonho Wohn, Yongjun Park
- Korea Software Congress (KSC), Dec. 2022

- [2] KSC'22 딥러닝 모델 파티션 자동화 및 최적화 기법

- Joonho Wohn, **Seongju Lee**, Yongjun Park
- Korea Software Congress (KSC), Dec. 2022

- [3] KCC'22 다중 GPU 시스템에서의 복잡한 딥러닝 모델의 고성능 추론을 위한 스케줄링 전략 분석

- Sunwook Jung, **Seongju Lee**, Beom Woo Kang, Taewook Oh, Yongjun Park
- Korea Computer Congress (KCC), Jun. 2022

- [4] KSC'20 NNStreamer를 이용한 실시간 동영상 기반 객체 인식 시스템 설계

- **Seongju Lee**, Yechan Choi, Yongjun Park
- Korea Software Congress (KSC), Dec. 2020

- [5] KCC'20 이종 시스템에서의 효율적인 추론을 위한 성능 기반 배치 분배 기법 연구

- **Seongju Lee**, Kyunghwan Choi, Yongjun Park
- Korea Computer Congress (KCC), Jul. 2020

SKILLS

Programming

Python, C/C++
Java, JavaScript (with HTML, CSS)

Frameworks / Tools

TVM, Git, Linux (with Bash), Word Processing S/W
Pytorch, Tensorflow, NNStreamer, LLVM

Soft Skills

Communication, Problem Solving, Adaptability, Detail-oriented, Respectfulness
Pytorch, Tensorflow, LLVM

Languages

Korean, English (TOEIC 890)