Jae-Won Chung

COMPUTER SCIENCE · COMPUTER ENGINEERING

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Education

University of Michigan · *Ann Arbor, MI, USA*

PH.D. STUDENT IN COMPUTER SCIENCE AND ENGINEERING · *Sep 2021 - present*

Seoul National University · *Seoul, South Korea*

B.S. IN ELECTRICAL AND COMPUTER ENGINEERING · *Mar 2015 - Aug 2021*

- GPA: 4.04/4.3 (overall) 4.15/4.3 (major)
- Summa Cum Laude
- Period includes two years of military service, required to all Korean men.

Publications

- **Zeus: Understanding and Optimizing GPU Energy Consumption of DNN Training**, Jie You*, Jae-Won Chung*, Mosharaf Chowdhury, 20th USENIX Symposium on Networked Systems Design and Implementation (NSDI), 2023 (Acceptance rate = 18.38%)
- **ShadowTutor: Distributed Partial Distillation for Mobile Video DNN Inference**, Jae-Won Chung, Jae-Yun Kim, Soo-Mook Moon, 49th International Conference on Parallel Processing (ICPP), 2020 (Acceptance rate = 28.99%)

Research Experience

SymbioticLab · *UMich, United States*

GRADUATE STUDENT RESEARCH ASSISTANT · *Sep 2022 - Present*

- Advised by Professor Mosharaf Chowdhury.
- *Zeus*: Understanding and optimizing GPU energy consumption of DNN training
- *Thor*: Energy-aware DNN inference scheduling

Software Platform Lab · *SNU, South Korea*

RESEARCH INTERN · *Apr 2020 - Jun 2022*

- Advised by Professor Byung-Gon Chun.
- *Crane*: A GPU cluster manager for AutoML workloads. Extensive systems programming and research on cluster scheduling policies.

Virtual Machine and Optimization Lab · *SNU, South Korea*

SENIOR PROJECT · *Dec 2019 - Jun 2020*

- Advised by Professor Soo-Mook Moon.
- *ShadowTutor*: Server-client collaborative video DNN inference. Use of knowledge distillation reduced network data transfer by 95%.

Computer Vision Lab · *SNU, South Korea*

RESEARCH INTERN · *Jun 2019 - Dec 2019*

- Advised by Professor Kyoung Mu Lee.
- Better meta-initialization methods for Model-Agnostic Meta-Learning (MAML) with neural memory modules and convex programs.

Lab of Imaging Science and Technology · *SNU, South Korea*

RESEARCH INTERN · *Jun 2019 - Aug 2019*

- Advised by Professor Jongho Lee.
- Designed and implemented a full deep learning pipeline for Quantitative Susceptibility Mapping. Accumulated experience on 3D MRI field data.

Honors & Awards

Jul 2021	**Kwanjeong Overseas Scholarship**, Kwanjeong Educational Foundation, $100,000 over four years	*Seoul, South Korea*
Mar 2019	**Kwanjeong Undergraduate Scholarship**, Kwanjeong Educational Foundation, $20,000 over two years	*Seoul, South Korea*

Teaching

- **Spring 2021 Operating Systems,** Main TA, Managed course projects and led group design reviews.
- **Fall 2020 Computer Organization (Undergraduate architecture),** Peer tutor, Provided 30 hours of online lecture, **Best Tutor Award!**

Skills

Languages	Python, Rust, C++, Verilog, C, Shell
Frameworks	PyTorch, CUDA, Pandas, Matplotlib
Tools	Machine Learning, Deep Learning, Multi-Armed Bandit
English	TOEFL 120 (Perfect score, Feb 2020), GRE 167/170/4.5 (Mar 2018), TOEIC 990 (Perfect score, Oct 2018)