(404) 706-9905
266 Ferst Dr NW,
Atlanta, GA 30332

MinGyu Park

mgpark@gatech.edu
linkedin.com/MinGyuPark
alsrbok.github.io

EDUCATION

Georgia Institute of Technology **Atlanta, GA, USA**
M.S., Ph.D in Electrical and Computer Engineering *Aug. 2023 - Present*
Advisor : Dr. Sung Kyu Lim

Seoul National University **Seoul, Korea**
B.S. in Electrical and Computer Engineering (CGPA: 3.93/4.0, **Summa Cum Luade**) *Mar. 2018 - Aug. 2023*

RESEARCH EXPERIENCES

Research Interests: 3D ICs, EDA flow with ML, RL, and Graph Algorithm, Back-Side Power & Clock Delivery Network

Graduate Research Assistant at GTCAD Lab

- Advisor: Prof. Sung Kyu Lim
- **Samsung Advanced Institute of Technology(SAIT) Project** *Jan. 2024 - Present*
  - Develop the GNN-based Tier Partitioner for 3nm 3D ICs.
- **Imec Project** *Dec. 2023 - Present*
  - Develop **Back-Side Clock Delivery Network** for 3D ICs that improves delay and signal congestion.
  - Use imec A14 nanosheet pdk to develop the 3D IC benchmark.
- **Center for Heterogeneous Integration of Micro Electronic Systems(CHIMES) Project** *Aug. 2023 - Present*
  - **First study** to fully identify the exploration space for imbalanced areas in the top and bottom tier that **increase the strength of heterogeneous 3D ICs**.
  - Enable multi-objective Design Space Exploration for both MAERI and systolic array design.
  - Utilized Macro-3D to build homogeneous and heterogeneous 3D Accelerator datasets.

Research Student at SOR Lab *Jun. 2022 - Feb. 2023*

- Advisor: Prof. Yun-Heung Paek
- **Bachelor's Thesis:** "Hardware Logic-aware Design Space Exploration for DNN Accelerators"
  - Developed a reconfigurable accelerator on FPGA that can support any spatial/temporal unrolling.
  - Analyzed DSE frameworks and proposed a method that can achieve design automation with optimized hardware cost.

Research Student at VLSI Lab *Feb. 2022 - Oct. 2022*

- Advisor: Prof. Jae-Joon Kim
  - Applied the current CNN binarization method on GNN and demonstrated incompatibility.
  - Suggested solutions to overcome the limited activation distribution and oversmoothing issue.

TEACHING EXPERIENCES

Undergraduate Student Tutor / Computer Organization, Seoul National University *Spring 2023*
Undergraduate Student Tutor / Digital Logic Design and Lab, Seoul National University *Fall 2022*
Lab Session Lecturer / Programming Methodology, Seoul National University *Summer 2022*

PROFICIENCY IN SKILLS

Programming Languages	C, C++, Python, Tcl, bash
EDA Tools	Cadence Innovus, Cadence Virtuoso, Cadence Tempus, Cadence Voltus Synopsys Design Compiler, Synopsys ICC2, Spectre, Calibre, ModelSim
Framework Library	PyTorch, PyG
Hardware Description Languages	Verilog, Chisel
Languages	Korean (Native), English (Proficient)

SELECTED COURSEWORK

Course in Georgia Institute of Technology

- Generative and Geometric Deep Learning *Fall 2023*
- Advanced VLSI Systems *Fall 2023*

Course in Seoul National University

- Digital Systems Design and Experiments *Fall 2022*
- Topics in Integrated Circuit Design (In-Memory Computing, audit) *Fall 2022*
- Topics in System Software *Fall 2022*
- Graph Convolution Network (Topics in Control and Automation) *Spring 2022*
- Machine Learning Fundamentals and Applications in Electrical and Computer Engineering *Spring 2022*

SCHOLARSHIPS

The Presidential Science Scholarship, Korea Student Aid Foundation *Spring 2020 - Spring 2023*

Scholarship for top students in science and technology with exceptional creativity and strong potential.
Full tuition and stipend support; 140 students are competitively selected nationwide.

Alumni Association Scholarship, Kwanak Corporation *Spring 2019*

Merit-Based Scholarship (60%), Seoul National University *Fall 2018*