Gordon Euhyun Moon (문의현)

CONTACT INFORMATION	*E-mail:* `ehmoon@sogang.ac.kr` *Webpage:* `https://gordonmoon.github.io` *Address:* Sogang University, Adam Schall Hall, 35, Baekbeom-ro, Mapo-gu, Seoul, South Korea *Phone:* +82-2-705-8487

RESEARCH
INTERESTS

Deep Learning, High Performance Computing, Deep Learning Accelerators

EDUCATION

The Ohio State University, Columbus, OH USA

    Ph.D. in Computer Science and Engineering, 2019

        Adviser: Ponnuswamy Sadayappan

Indiana University, Bloomington, IN USA

    M.S. Computer Science, 2013

Yonsei University, Seoul, South Korea

    B.S. in Computer Science & Industrial Engineering, 2011

PROFESSIONAL
APPOINTMENTS

Sogang University, Seoul, South Korea

Associate Professor - Department of Computer Science and Engineering	2025–present
Assistant Professor - Department of Computer Science and Engineering	2022–2025
Adjunct Professor - Department of Economics	2024–present
Adjunct Professor - Department of Artificial Intelligence	2022–present

Korea Aerospace University, Goyang, South Korea

Assistant Professor - Department of Software	2021–2022

Sandia National Laboratories, Albuquerque, NM USA

Postdoctoral Researcher - Center for Computing Research	2019–2021

RESEARCH GRANTS

National Research Foundation of Korea (NRF), PI, ₩850,000,000, Optimizing Distributed Deep Learning and Federated Learning for Accelerating Large-Scale Deep Learning Models, 2024–2027

National Research Foundation of Korea (NRF), Co-PI, ₩1,500,000,000, Developing a High-Performance Computing-Data Platform for Accelerating Large-Scale Machine Learning (PI: Youngjae Kim), 2024–2027

Institute for Information & Communications Technology Planning & Evaluation (IITP), Co-PI, Information Technology Research Center (ITRC), Developing an Open Platform for Web 3.0 (PI: Sooyong Park), 2023–2030

New Faculty Research Fund, PI, Sogang University, 2022–2025

National Research Foundation of Korea (NRF), PI, Architecture-aware Parallel Algorithms for Accelerating Training of Deep Neural Networks, 2021–2024

AWARDS

University Outstanding Teaching Award, Sogang University, 2023–2024
Best Paper Award, KIISE Korea Software Congress (KSC), 2023
Graduate Fellowship, Indiana University, 2011–2012

TEACHING

CSE 6473: Advanced GPU Programming (Fall 2025)
CSE 4200: Recommender Systems (Fall 2025)
GITF 310: Parallel Computing (Spring 2025)
CSE 3030: Introduction to Computer Systems (Spring 2025)
COR 1010: AI Programming (Spring 2025)
CSE 6473: Advanced GPU Programming (Fall 2024)
CSE 4200: Recommender Systems (Fall 2024)
CSE 3030: Introduction to Computer Systems (Spring 2024)
COR 1010: AI Programming (Spring 2024)
CSE 6473: Advanced GPU Programming (Fall 2023)
CSE 4070: Operating Systems (Fall 2023)
CSE 3030: Introduction to Computer Systems (Spring 2023)
COR 1010: AI Programming (Spring 2023)
CSE 2035: Computer Programming II (Fall 2022)
CSE 4070: Operating Systems (Fall 2022)
SW 4432: Recommender Systems (Spring 2022)
SW 4206: AI Programming (Spring 2022)
SW 4429: Parallel Computing (Fall 2021)
SW 4205: System Programming (Fall 2021)
SW 4206: AI Programming (Spring 2021)

SELECTED
PUBLICATIONS

D-HAT: Dynamic Hypergraph Representation Learning with Attention-Based Multi-Level Hypergraph Sampling
Ah-hyun Lee and **Gordon E. Moon**
Proceedings of the 34th ACM International Conference on Information and Knowledge Management (CIKM 2025)

EQUILIBRIA: Co-Optimizing Energy and Latency in Online ML-based Stream Processing Systems
Sejeong Oh, Soyang Baek, **Gordon E. Moon** and Sungyong Park
Proceedings of the 25th IEEE International Symposium on Cluster, Cloud and Internet Computing (CCGrid 2025)

ML-based Dynamic Operator-Level Query Mapping for Stream Processing Systems in Heterogeneous Computing Environments
Sejeong Oh, **Gordon E. Moon** and Sungyong Park
Proceedings of the 26th IEEE International Conference on Cluster Computing (CLUSTER 2024)

Accelerated Block-Sparsity-Aware Matrix Reordering for Leveraging Tensor Cores in Sparse Matrix–Multivector Multiplication
Eunji Lee, Yoonsang Han and **Gordon E. Moon**
Proceedings of the 30th International European Conference on Parallel and Distributed Computing (Euro-Par 2024)

Layer-Wise Sparse Training of Transformer via Convolutional Flood Filling
Bokyeong Yoon, Yoonsang Han and **Gordon E. Moon**
Proceedings of the 28th Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD 2024)

Chronica: A Data-Imbalance-Aware Scheduler for Distributed Deep Learning
Sanha Maeng, **Gordon E. Moon** and Sungyong Park
Proceedings of the 23rd IEEE/ACM International Symposium on Cluster, Cloud and Internet Computing (CCGrid 2023)

Parallel Training of GRU Networks with a Multi-Grid Solver for Long Sequences

Gordon E. Moon and Eric C. Cyr
Proceedings of the 10th International Conference on Learning Representations (ICLR 2022)

Evaluating Spatial Accelerator Architectures with Tiled Matrix-Matrix Multiplication
Gordon E. Moon, Hyoukjun Kwon, Geonhwa Jeong, Prasanth Chatarasi, Sivasankaran Rajamanickam and Tushar Krishna
IEEE Transactions on Parallel and Distributed Systems (TPDS 2022)

Extending Sparse Tensor Accelerators to Support Multiple Compression Formats
Eric Qin, Geonhwa Jeong, William Won, Sheng-Chun Kao, Hyoukjun Kwon, Sudarshan Srinivasan, Dipankar Das, **Gordon E. Moon**, Sivasankaran Rajamanickam and Tushar Krishna
Proceedings of the 35th IEEE International Parallel & Distributed Processing Symposium (IPDPS 2021)

ALO-NMF: Accelerated Locality-Optimized Non-negative Matrix Factorization
Gordon E. Moon, J. Austin Ellis, Aravind Sukumaran-Rajam, Srinivasan Parthasarathy and P. Sadayappan
Proceedings of the 26th ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD 2020)

PROFESSIONAL SERVICE	Head, Global AI Education Center, Sogang University, 2024–present

Chair, Major in Software Engineering & Computer Systems, Graduate School of AI·SW, Sogang University, 2023–present
Program Committee Member, Korea Information Processing Society (ASK 2025)
Program Committee Member, The 40th IEEE International Conference on Computer Design (ICCD 2022)
Program Committee Member, Tenth International Workshop on Accelerating Analytics and Data Management Systems Using Modern Processor and Storage Architectures (ADMS 2019)
Korean Military Service, Sixth Army Corps Headquarters, 2007–2009

INVITED TALKS
HPC Society Conference, KIISE, July 2024
HPC Society Conference, KIISE, July 2022
Korea Computer Congress (KCC), KIISE, June 2022
Computer System Society Conference, The Korean Institute of Information Scientists and Engineers (KIISE), February 2022
NVIDIA GTC, November 2021
AMS Fall Western Virtual Sectional Meeting, October 2021
SIAM Conference on Computational Science and Engineering (CSE), March 2021
Sandia National Laboratories, August 2019
Oak Ridge National Laboratory, August 2019
AMD Research, July 2019

PH.D. STUDENTS
Yoonsang Han
Ah-Hyun Lee

M.S. STUDENTS
Yeeun Ahn
Juhyeon Lee
Bokki Min
Sangwon Bae
Kisun Seo

ALUMNI
Yoonsang Han (M.S., Sogang University, 2025, Joined Sogang University for Ph.D. in Computer Science and Engineering)

Eunji Lee (M.S., Sogang University, 2025, First employment: Rebellions)
Cheolhee Kim (M.S., Sogang University, 2024)
Bokyeong Yoon (M.S., Sogang University, 2024, Joined The Ohio State University for Ph.D. in Computer Science and Engineering under the supervision of Professor Martin Kong)

MISCELLANEOUS   U.S. and Korea dual citizenship