Gordon Euhyun Moon

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EXPERIENCE

Korea Aerospace University — **Goyang, Korea**
Assistant Professor — *March 2021–present*
Department of Software and Department of Artificial Intelligence

Sandia National Laboratories — **Albuquerque, NM**
Postdoctoral Researcher — *October 2019–January 2021*

EDUCATION

The Ohio State University — **Columbus, OH**
Ph.D. in Computer Science & Engineering — *2019*
Thesis: "Parallel Algorithms for Machine Learning"
Advisor: Professor Ponnuswamy Sadayappan
Committee: Professor Eric Fosler-Lussier and Professor Srinivasan Parthasarathy

Indiana University — **Bloomington, IN**
M.S. in Computer Science — *2013*

Yonsei University — **Seoul, Korea**
B.S. in Computer Science & Industrial System Engineering — *2011*

RESEARCH INTERESTS

Deep Learning, High-Performance Computing, and Deep Learning Accelerators

PUBLICATIONS

Gordon E. Moon and Eric C. Cyr, "Parallel Training of GRU Networks with a Multi-Grid Solver for Long Sequences,"
To Appear in Proceedings of the 10th International Conference on Learning Representations (ICLR'22), 2022

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

Eric Qin, Geonhwa Jeong, William Won, Sheng-Chun Kao, Hyoukjun Kwon, Sudarshan Srinivasan, Dipankar Das, **Gordon E. Moon**, Sivasankaran Rajamanickam and Tushar Krishna, "Extending Sparse Tensor Accelerators to Support Multiple Compression Formats,"
Proceedings of the 35th IEEE International Parallel & Distributed Processing Symposium (IPDPS'21), 2021

Gordon E. Moon, J. Austin Ellis, Aravind Sukumaran-Rajam, Srinivasan Parthasarathy and P. Sadayappan, "ALO-NMF: Accelerated Locality-Optimized Non-negative Matrix Factorization,"
Proceedings of the 26th ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD'20), 2020 (acceptance rate: 216/1279 $\approx$ 16.9%, research track, oral and poster presentations)

Gordon E. Moon, Denis Newman-Griffis, Jinsung Kim, Aravind Sukumaran-Rajam, Eric Fosler-Lussier and P. Sadayappan, "Parallel Data-Local Training for Optimizing Word2Vec Embeddings for Word and Graph Embeddings,"
Proceedings of the IEEE/ACM 5th International Workshop on Machine Learning in High Performance Computing Environments (MLHPC'19), *held in conjunction with International Conference for High Performance Computing, Networking, Storage, and Analysis* (SC'19), 2019

Gordon E. Moon, Israt Nisa, Aravind Sukumaran-Rajam, Bortik Bandyopadhyay, Srinivasan Parthasarathy and P. Sadayappan, "Parallel Latent Dirichlet Allocation on GPUs,"
Proceedings of the 2018 International Conference on Computational Science (ICCS'18), 2018

Gordon E. Moon, Aravind Sukumaran-Rajam, and P. Sadayappan, "Parallel LDA with Over-Decomposition,"
Proceedings of the 2017 IEEE 24th International Conference on High Performance Computing Workshops (HiPCW'17), 2017

Gordon E. Moon and Jihun Hamm, "A Large-Scale Study in Predictability of Daily Activities and Places,"
Proceedings of the 8th EAI International Conference on Mobile Computing, Applications and Services (MobiCASE'16), 2016

PROFESSIONAL SERVICE

Program Committee Member

- *Tenth International Workshop on Accelerating Analytics and Data Management Systems Using Modern Processor and Storage Architectures* (*ADMS 2019*), August 2019

INVITED TALKS

Gordon E. Moon, "Deep Learning based Recommender Systems for Bicycling Route", NVIDIA GTC'21, A31282 - Regional Panel with Top Startups from Korea, Virtual Conference, November, 2021

Eric C. Cyr and **Gordon E. Moon**, "Parallel-in-Time Training of Recurrent Neural Networks", 2021 AMS Fall Western Virtual Sectional Meeting, SS17B - AMS Special Session on Theoretical and Applied perspectives in Machine Learning, II, October, 2021

Gordon E. Moon and Eric C. Cyr, "Parallel Training of an LSTM Network with a Multigrid Solver", SIAM Conference on Computational Science and Engineering (CSE'21), Virtual Conference, March, 2021

Siva Rajamanickam and **Gordon E. Moon**, "Mixed-Precision Schemes for Linear Algebra Kernels on GPUs", SIAM Conference on Computational Science and Engineering (CSE'21), Virtual Conference, March, 2021

Gordon E. Moon, "Accelerated Computing for Machine Learning", Sandia National Laboratories, Albuquerque, NM, August, 2019

CERTIFICATION/SKILLS

- Proficient in deep learning frameworks such as PyTorch, TensorFlow, Theano, Caffe, etc.

- Proficient in parallel programming using OpenMP, MPI, CUDA, etc.

- Programming Languages Proficiency: C/C++, Python, Java, MATLAB, R, and MySQL

AWARDS/HONORS

Fall 2011–Spring 2012: Graduate Fellowship, Indiana University

Spring 2007: Dean's Innovation Award, Ecology-Friendly Devices for Comestibles Waste Treatment and Recycling, Yonsei University

VOLUNTEERING SERVICES

July 2007–June 2009: Military Services, Transportation Battalion, Sixth Army Corps Headquarters