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last updated February 2021

EDUCATION

The Ohio State University

Ph.D. in Computer Science & Engineering

Thesis: "Parallel Algorithms for Machine Learning"

Advisor: Professor Ponnuswamy Sadayappan

Columbus, OH

2019

Indiana University

M.S. in Computer Science

Bloomington, IN

2013

Yonsei University

B.S. in Computer Science & Industrial System Engineering

Seoul, Korea

2011

EXPERIENCE

Korea Aerospace University

Assistant Professor

Department of Software

Seoul, Korea

March 2021–present

Sandia National Laboratories

Postdoctoral Researcher

Research area: Scalable Layer-Parallel Deep Neural Network Training, Co-design of Artificial Intelligence-focused Architectures and Algorithms

Albuquerque, NM

October 2019–January 2021

RESEARCH INTERESTS

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

PUBLICATIONS

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," *To Appear in 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

PAPERS UNDER REVIEW

Gordon E. Moon, Hyoukjun Kwon, Geonhwa Jeong, Prasanth Chatarasi, Sivasankaran Rajamanickam and Tushar Krishna, "Evaluating Spatial Accelerator Architectures using Tiled Matrix-Matrix Multiplication,"

Status: Under review at a journal

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

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