Gordon Euhyun Moon

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EDUCATION

The Ohio State University **Columbus, OH**
Ph.D. in Computer Science & Engineering *2013–2019*
Thesis: "Parallel Algorithms for Machine Learning"
Advisor: Professor Ponnuswamy Sadayappan

Indiana University **Bloomington, IN**
M.S. in Computer Science *2011–2013*

Yonsei University **Seoul, Korea**
B.S. in Computer Science & Industrial System Engineering *2004–2011*
Double Baccalaureates:
Computer Science (2004–2005) & Industrial System Engineering (2006–2011)

EXPERIENCE

Sandia National Laboratories **Albuquerque, NM**
Postdoctoral Researcher *October 2019–present*
Research area: Scalable Layer-Parallel Deep Neural Network Training, Co-design of Artificial Intelligence-focused Architectures and Algorithms

The Ohio State University **Columbus, OH**
Instructor *2014–2018*
- Computer Programming In Java
- Introduction to Computing Technology

Graduate Teaching Assistant *2018–2019*
- Survey of Artificial Intelligence II: Advanced Techniques
- Principles of Programming Languages

Indiana University **Bloomington, IN**
Graduate Teaching Assistant *2012*
- Elements of Artificial Intelligence

RESEARCH INTERESTS

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

PUBLICATIONS

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 conference

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,"
Status: Under review at a conference

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

June 2010: Dispatched to Siem Riep, Cambodia for Delivery of Medical Supplies under Auspices of Kyungdong Presbyterian Church

January 2010–February 2010: Dispatched to Ho Chi Minh, Vietnam for Medical Curative Treatment under Auspices of Kyungdong Presbyterian Church

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

REFERENCES

Ponnuswamy Sadayappan
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Srinivasan Parthasarathy
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Department of SBS-Biomedical Informatics
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