Dong Ryeol Lee — Curriculum vitae

CONTACT E-mail: drselee@gmail.com WWW: http://sites.google.com/view/dongryeollee

BIO

I am a researcher with expertise in large scale machine learning and with experience working on projects in aviation, finance, internet, and automotive sectors. I hold a Ph.D. in CS and a M.S. in Math.
Previously I was a senior data scientist at Faraday Future and worked on in-house cloud solutions for processing data from automotive manufacturing, validation, and sales departments. I also spent some years at Yahoo Research working on web search relevance problems using natural language processing and deep learning. Prior to this I worked as a researcher at GE Global Research on building internal software infrastructure for fleet level asset prognostics and capital finance.

EDUCATION

Georgia Institute of Technology, Atlanta, GA. **08/2005 – 05/2012**

Ph.D., Computer Science, 05/2012 GPA: 3.85 (4.0 scale)

Minor: Optimization and Statistics.
Thesis: *A Distributed Kernel Summation Framework for Machine Learning and Scientific Simulations*. Advised by Alexander G. Gray.
Maintainer of **MLPACK** http://mlpack.org
DHS Graduate Fellowship, 2006 – 2009.
Upsilon Pi Epsilon CS International Honor Society, 2007.

M.S., Mathematics, 05/2011

Carnegie Mellon University, Pittsburgh, PA. **08/2001 – 05/2005**

B.S., Computer Science, 05/2005 GPA: 3.87 (4.0 scale)

Graduation with university and college honors.
Thesis: *New algorithmic techniques for generalized n-body problems*.
Dean's List for 6 out of 8 semesters.
National Society of Collegiate Scholars inductee, 2002.
Phi Beta Kappa inductee, 2005.
Phi Kappa Phi inductee, 2005.
Senior Leadership Award, 2005.
University Scholarship, 2001 – 2005.

B.S., Mathematical Sciences, 05/2005

PROFESSIONAL CERTIFICATIONS

Level 1 CFA Exam Passed Level 1 of the CFA Program. **08/2022**
AWS Certified Solutions Architect Associate **05/2021 – 05/2024**

PROFESSIONAL EXPERIENCE

Assistant Professor at Saint Peter's University **08/2022 – Present**
Adjunct Faculty at Saint Peter's University, Jersey City, NJ. **11/2021 – 08/2022**

Teaching graduate-level courses in data science.

Pharmacy Technician at Walgreens Pharmacy, River Vale, NJ. **11/2021 – Present**

Assisting pharmacists in verification, typing, and filling of prescriptions; management of inventories and customer information; handling customer phone calls and drive-thru customers in answering questions related to prescriptions and insurance.

C2 Education, Closter, New Jersey. **08/2021 – Present**

Tutoring college-bound students for preparation for ACT/SAT and AP exams.

Adjunct Associate Professor at Columbia University, New York, NY. **01/2020 – 05/2020**

Taught COMS W4721 Machine Learning for Data Science to students and industry professionals.

Data Scientist at Faraday Future, Gardena, CA. **07/2016 – 08/2019**

Built in-house cloud-based solutions for intracompany machine learning needs including prognostics and diagnostics of various components in electrical vehicles (battery), route recommendations.

Scientist at Yahoo Research, Sunnyvale, CA. **01/2015 – 07/2016**

Worked on natural language processing and deep learning methods for web search relevance problems.

Scientist at GE Global Research, Niskayuna, NY. **07/2012 – 01/2015**

Built in-house cloud-based solutions for intracompany machine learning needs including prognostics and diagnostics of various GE assets (wind turbine and airplane engine blades) and capital finance.

Co-founder at Analytics 1305, Atlanta, GA. **03/2009 – 08/2010**

Startup consulting on industrial and business problems.

Teaching Experience

Carnegie Mellon University, Pittsburgh, PA.

Grader for Department of Mathematical Sciences **08/2004 – 12/2004**

Grader for 21-355 Principles of Real Analysis I.

Teaching Assistant for School of Computer Science **01/2004 – 05/2004**

Held office hours and graded assignments for *15-113 System Skills in C*.

Carnegie Mellon University Academic Development **08/2002 – 05/2005**

Tutored introductory/advanced courses in mathematics and computer science. College Reading & Learning Association Level 3 Master certification.

Journal Publications

[JMLR 2015] R. R. Curtin, D. Lee, W. B. March, and P. Ram. Plug-and-play dual-tree algorithm runtime analysis. *The Journal of Machine Learning Research*, 16(1):3269–3297, 2015

[SAM 2013] D. Lee, P. Sao, R. Vuduc, and A. G. Gray. A distributed kernel summation framework for general-dimension machine learning. *Statistical Analysis and Data Mining*, 7(1):1–13, 2014

[JCP 2012] D. Lee, A. Ozakin, and A. G. Gray. Multibody multipole methods. *Journal of Computational Physics*, 231(20):6827–6845, 2012

Book Chapters

[AMLDMA 2012] W. B. March, A. Ozakin, D. Lee, R. Riegel, and A. G. Gray. Multitree algorithms for large-scale astrostatistics. In *Advances in Machine Learning and Data Mining for Astronomy*, pages 463–483. CRC Press, 2012

CONFERENCE PUBLICATIONS

[NeurIPS 2012] N. Mehta, D. Lee, and A. G. Gray. Minimax multi-task learning and a generalized loss-compositional paradigm for mtl. In *Advances in Neural Information Processing Systems*, pages 2150–2158, 2012

[SC 2012] W. B. March, K. Czechowski, M. Dukhan, T. Benson, D. Lee, A. J. Connolly, R. Vuduc, E. Chow, and A. G. Gray. Optimizing the computation of n-point correlations on large-scale astronomical data. In *Proceedings of the International Conference on High Performance Computing, Networking, Storage and Analysis*, page 74. IEEE Computer Society Press, 2012

[CVPR 2012] K. Kim, D. Lee, and I. Essa. Detecting regions of interest in dynamic scenes with camera motions. In *2012 IEEE Conference on Computer Vision and Pattern Recognition*, pages 1258–1265. IEEE, 2012

[SDM 2012B] P. Ram, D. Lee, and A. G. Gray. Nearest-neighbor search on a time budget via max-margin trees. In *Proceedings of the 2012 SIAM International Conference on Data Mining*, pages 1011–1022. SIAM, 2012

[SDM 2012A (Best paper)] D. Lee, R. Vuduc, and A. G. Gray. A distributed kernel summation framework for general-dimension machine learning. In *Proceedings of the 2012 SIAM International Conference on Data Mining*, pages 391–402. SIAM, 2012

[ICCV 2011] K. Kim, D. Lee, and I. Essa. Gaussian process regression flow for analysis of motion trajectories. In *2011 International Conference on Computer Vision*, pages 1164–1171. IEEE, 2011

[NeurIPS 2009B (Poster spotlight)] P. Ram, D. Lee, W. March, and A. G. Gray. Linear-time algorithms for pairwise statistical problems. In *Advances in Neural Information Processing Systems*, pages 1527–1535, 2009

[NeurIPS 2009A] P. Ram, D. Lee, H. Ouyang, and A. G. Gray. Rank-approximate nearest neighbor search: Retaining meaning and speed in high dimensions. In *Advances in Neural Information Processing Systems*, pages 1536–1544, 2009

[NeurIPS 2008] D. Lee and A. G. Gray. Fast high-dimensional kernel summations using the monte carlo multipole method. In *Advances in Neural Information Processing Systems*, pages 929–936, 2009

[AISTATS 2007] P. Wang, D. Lee, A. Gray, and J. M. Rehg. Fast mean shift with accurate and stable convergence. In *Artificial Intelligence and Statistics*, pages 604–611, 2007

[UAI 2006] D. Lee and A. Gray. Faster gaussian summation: theory and experiment. In *Proceedings of the Twenty-Second Conference on Uncertainty in Artificial Intelligence*, pages 281–288. AUAI Press, 2006

[NeurIPS 2005] D. Lee, A. W. Moore, and A. G. Gray. Dual-tree fast gauss transforms. In *Advances in Neural Information Processing Systems*, pages 747–754, 2006

PROGRAMMING LANGUAGES

C, C++, MapReduce framework (Spark, Flink), OpenMPI, Python

LANGUAGES

Fluent in English and Korean. Conversational level in Japanese and Mandarin.