Dawon Ahn *Ph.D. Candidate*

Computer Science and Engineering
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Research Interests

My research interests lie at the intersection of Tensor Models and Deep Learning, especially

- Designing tensor models focusing on **scalability [CIKM' 20-21, DSAA' 21]**, **trustworthiness & expressiveness [TheWebConf' 24, CIKM' 24, PAKDD' 25]**
- Applying tensor models to **modern neural architectures**—such as Fourier Neural Operator and Mixture of Experts in Transformer—to enhance **computational efficiency**

Education

2021- Ph.D. in Computer Science and Engineering
University of California, Riverside, CA, USA

2014-2019 B.S. in Mathematics
Chonnam National University, Gwangju, South Korea

Research Experiences

2025 Summer Research Intern
Visa Research, Foster City, CA, USA
Mentors: Uday Singh Saini, Chin-Chia Michael Yeh

2023 Summer Research Intern
Cisco Network, San Jose, CA, USA (Remote)
Mentor: Ali Paynai

2021- Graduate Research Assistant
Multi-Aspect Data Lab, UC Riverside, CA, USA
Advisor: Prof. Evangelos E. Papalexakis

2019-2021 Research Intern
Data Mining Lab, Seoul National University, Seoul, South Korea
Advisor: Prof. U Kang

Publications

Conference & Journal

2025 [1] **Dawon Ahn***, Jun-Gi Jang*, and Evangelos E. Papalexakis, "Improving Group Fairness in Tensor Completion via Imbalance Mitigating Entity Augmentation", *Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD)*, 2025, Sydney, Australia (*Equal contribution)

[2] Yiran Luo, Het Patel, Yu Fu, **Dawon Ahn**, Jia Chen, Yue Dong, and Evangelos E Papalexakis, "TRAWL: Tensor Reduced and Approximated Weights for Large Language Models", *Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD-DSFA)*, 2025, Sydney, Australia

2024 [3] Shaan Pakala, Bryce Graw, **Dawon Ahn**, Tam Dinh, Mehnaz Tabassum Mahin, Vassilis Tsotras, Jia Chen,

and Evangelos E. Papalexakis, "Automating Data Science Pipelines with Tensor Completion", *IEEE International Conference on Big Data (Big Data)*, 2024, Washington DC, USA

[4] **Dawon Ahn**, Uday Singh Saini, Evangelos E. Papalexakis, and Ali Payani, "Neural Additive Tensor Decomposition for Sparse Tensors", *ACM International Conference on Information and Knowledge Management (CIKM)*, 2024, Boise, ID, USA

[5] **Dawon Ahn**, William Shiao, Arindam Khaled, Andrew Bauer, Stefanos Poulis, and Evangelos E. Papalexakis, "Compact Interpretable Tensor Graph Multi-Modal News Embeddings", *ACM on Web Conference (TheWebConf)*, 2024, Singapore

2021 [6] **Dawon Ahn**, JunGi Jang, and U Kang, "Time-aware tensor decomposition for sparse tensors", *IEEE International Conference on Data Science and Advanced Analytics (DSAA)*, 2021, Porto,Portugal

[7] **Dawon Ahn**, Seyun Kim, and U Kang, "Accurate online tensor factorization for temporal tensor streams with missing values", *ACM International Conference on Information & Knowledge Management (CIKM)*, 2021, Gold Coast, Queensland, Australia

[8] **Dawon Ahn**, Sangjun Son, and U Kang, "Gtensor: Fast and accurate tensor analysis system using gpus", *ACM International Conference on Information & Knowledge Management (CIKM)*, 2020, Ireland

Workshop & Forum

2023-2025 [9] **Dawon Ahn** and Evangelos E. Papalexakis, "Enhancing Trustworthiness and Expressiveness in Tensor Mining", *SIAM International Conference on Data Mining (SDM), Ph.D. Forum*, 2025, Alexandria, VA, USA (Honorable Mention)

[10] Shaan Pakala, **Dawon Ahn**, and Evangelos E. Papalexakis, "Tensor Completion for Surrogate Modeling of Material Property Prediction", *AAAI Conference on Artificial Intelligence, KGML-Bridge-AAAI Workshop*, 2025, Philadelphia, PA, USA

[11] **Dawon Ahn** and Evangelos E. Papalexakis, "Global and Local Structure Learning for Sparse Tensor Completion", *IEEE International Conference on Big Data (Big Data), Ph.D. Forum*, 2024, Washington DC, USA (Best Short Paper Presentation Award)

[12] **Dawon Ahn**, William Shiao, Arindam Khaled, Andrew Bauer, Stefanos Poulis, and Evangelos E. Papalexakis, "Compact Interpretable Tensor Graph Multi-Modal News Embeddings", *ACM Knowledge Discovery and Data Mining (KDD), MLG workshop*, 2023, Long beach, CA, USA

Professional Services

2023-2025 Conference Reviewer @ TheWebConf, KDD, CIKM, ACML

Awards

2024-2025 Laxmi Bhuyan Fellowship @ UCR
Student Travel Award @ PAKDD' 25, SDM' 25
Best Short Presentation Award @ IEEE Big Data PhD Forum

Mentoring

June-Sep 2024 Mentor
National Science Foundation (NSF) REU, UC Riverside

June 2022 Team lead
Lawrence Livermore National Laboratory (LLNL) Data Science Challenge, Riverside, USA