Sejoon Oh

GenAI/ML Research Scientist @ Netflix
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RESEARCH INTERESTS

Generative AI, Foundation Models, Multimodal Machine Learning, Recommender Systems, Adversarial Machine Learning, Natural Language Processing, Tensor Analysis, Data Science

EDUCATION

Georgia Institute of Technology, Atlanta, GA
- Ph.D. in Computer Science — Aug. 2019 – May 2024
- Advisor: Prof. Srijan Kumar

Seoul National University, Seoul, Korea
- Bachelor of Science (B.S.) in Computer Science and Engineering — Mar. 2012 – Aug. 2018
- Advisor: Prof. U Kang

WORK EXPERIENCE

GenAI/ML Research Scientist, **Netflix**
- Manager: Sudarshan Lamkhede — June 2024 – Present
- Role: Developing Foundation Models using Netflix Data
- Projects: Personalizing LLMs, User Intent Prediction, Knowledge Transfer via Model Distillation

Machine Learning Research Intern, **Netflix**
- Mentors: Dr. Moumita Bhattacharya & Dr. Yesu Feng — May 2023 – Aug. 2023
- [Research Project] IntentRec: Predicting User Session Intent in Netflix

Data Science Research Intern, **The Home Depot**
- Mentors: Dr. Xiquan Cui & Dr. Amin Javari & Rebecca West — May 2021 – Aug. 2021
- [Research Project] Real-time Intention-aware Personalized Recommendation

Data Science Research Intern, **Adobe Research**
- Mentors: Dr. Sungchul Kim & Dr. Ryan Rossi — May 2020 – Aug. 2020
- [Research Project] Influence-guided Data Augmentation for Neural Tensor Completion

Graduate Research Assistant, Georgia Institute of Technology — Aug. 2019 – May 2024
- [Research Area] Recommender System, Adversarial ML, and Natural Language Processing

Undergraduate Research Intern, Data Mining Lab., Seoul National University — July 2016 – May 2018
- [Research Area] Tensor Analysis, Recommender System, and High-performance Computing

SELECTED PUBLICATIONS

JOURNAL PAPERS

[J3] **Sejoon Oh**, Julian McAuley, Berk Ustun, and Srijan Kumar, "FINEST: Stabilizing Recommendations by Rank-Preserving Fine-Tuning", ACM Transactions on Knowledge Discovery from Data **(TKDD)**, 2024.

[J2] Kijung Shin, **Sejoon Oh**, Jisu Kim, Bryan Hooi, and Christos Faloutsos, "Fast, Accurate and Provable Triangle Counting in Fully Dynamic Graph Streams", ACM Transactions on Knowledge Discovery from Data **(TKDD)**, 2020.

[J1] **Sejoon Oh**, Namyong Park, Jun-Gi Jang, Lee Sael, and U Kang, "High-Performance Tucker Factorization on Heterogeneous Platforms", IEEE Transactions on Parallel and Distributed Systems **(TPDS)**, 2019.

CONFERENCE PAPERS

[C6] **Sejoon Oh**, Gaurav Verma, and Srijan Kumar, "Adversarial Text Rewriting for Text-aware Recommender Systems", ACM International Conference on Information and Knowledge Management ***(CIKM)***, 2024.

[C5] Gaurav Verma, Minje Choi, Kartik Sharma, Jamelle Watson-Daniels, **Sejoon Oh**, Srijan Kumar, "Cross-Modal Projection in Multimodal LLMs Doesn't Really Project Visual Attributes to Textual Space", Annual Meeting of the Association for Computational Linguistics ***(ACL)***, 2024.

[C4] **Sejoon Oh**, Julian McAuley, Berk Ustun, and Srijan Kumar, "Rank List Sensitivity of Recommender Systems to Interaction Perturbations", ACM International Conference on Information and Knowledge Management ***(CIKM)***, 2022.

[C3] Walid Shalaby, **Sejoon Oh**, Amir Hossein Afsharinejad, Xiquan Cui, and Srijan Kumar, "M2TRec: Metadata-aware Multi-task Transformer for Large-scale and Cold-start free Session-based Recommendations", ACM Conference on Recommender Systems ***(RecSys)*** Late-Breaking Result, 2022.

[C2] **Sejoon Oh**, Sungchul Kim, Ryan Rossi, and Srijan Kumar, "Influence-guided Data Augmentation for Neural Tensor Completion", *ACM International Conference on Information and Knowledge Management (**CIKM**)*, Queensland, Australia, 2021.

[C1] **Sejoon Oh**, Namyong Park, Lee Sael, and U Kang, "Scalable Tucker Factorization for Sparse Tensors - Algorithms and Discoveries", *IEEE International Conference on Data Engineering (**ICDE**)*, Paris, France, 2018.

DRAFTS

[D2] **Sejoon Oh**, Yiqiao Jin, Eric Ma, Megha Sharma, Ethan Kim, and Srijan Kumar "UniGuard: Towards Universal Safety Guardrails for Jailbreak Attacks on Multimodal Large Language Models", Under Review, 2024.

[D1] **Sejoon Oh**, Moumita Bhattacharya, Yesu Feng, and Sudarshan Lamkhede "IntentRec: Predicting User Session Intent with Hierarchical Multi-Task Learning", BayLearn, 2024.

AWARDS & SCHOLARSHIPS

- **Kwanjeong Educational Foundation Ph.D. Fellowship** Aug. 2019 – May 2024
  One of the most prestigious fellowships in Korea, which supports up to $\$30K$ USD per year
- **SIGIR Student Travel Award for CIKM 2021 and 2022** Sept. 2021, 2022
  Funded by SIGIR to attend 2021 and 2022 ACM CIKM conference
- **2021 Machine Learning at Georgia Tech (ML@GT) Fellow** May 2021
  Supports 50% of the RA salary; acceptance Ratio: 24% (6/25).
- **Twitch Research Fellowship** Jan. 2021
  Finalist Award - $\$5K$ USD
- **Best Thesis Award (among all CSE undergraduate students)** Aug. 2018
  Awarded by Seoul National University, Korea
- **Humantech Paper Award (Gold Prize, 1st in Computer Science)** Feb. 2018
  Awarded by Samsung, Korea
- **Silver Medalist of Asia-Pacific Informatics Olympiad** May 2011
  Awarded at the 5th Asia-Pacific Informatics Olympiad (APIO), Iran

PROFESSIONAL SERVICES

Journal Reviewer

- European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML-PKDD 2018; Guest Reviewer) Mar. 2018

Conference Reviewer

- ACM SIGKDD International Conference on Knowledge Discovery and Data Mining Feb. 2024
- The 38th Annual AAAI Conference on Artificial Intelligence (AAAI-24) Oct. 2023
- ACM SIGKDD International Conference on Knowledge Discovery and Data Mining Feb. 2023

PATENTS

USA

- Moumita BHATTACHARYA, Yesu FENG, Sudarshan LAMKHEDE, **Sejoon Oh**, "PREDICTING USER SESSION INTENT WITH HIERARCHICAL MULTI-TASK LEARNING", Provisional.
- Walid Shalaby, **Sejoon Oh**, Amir Hossein Afsharinejad, Xiquan Cui, "MACHINE LEARNING-BASED USER SELECTION PREDICTION BASED ON SEQUENCE OF PRIOR USER SELECTIONS", Filed.
- Sungchul Kim, **Sejoon Oh**, Ryan Rossi, "ENHANCING NEURAL-BASED PREDICTION OF MULTI-DIMENSIONAL DATA VIA INFLUENCE AND DATA AUGMENTATION", Patent number: US20230244926A1.

KOREA

- **Sejoon Oh**, Namyong Park, U Kang, "Apparatus for Supporting Multi-dimensional Data Analysis through Parallel Processing and Method for the Same", Korean patent number: 10-2017-0158951.

TEACHING

Teaching Assistant

- DSN: Data Science for Social Networks (Georgia Tech - CSE 8803) Fall 2022
- Web Search and Text Mining (Georgia Tech - CSE 6240) Spring 2021