Sejoon Oh

Computational Science and Engineering Department, Georgia Institute of Technology
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RESEARCH INTERESTS

Recommender Systems, Natural Language Processing, Adversarial Machine Learning, Data Science

EDUCATION

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

Carnegie Mellon University, Pittsburgh, PA
- First-year Ph.D. Student in CPCB program — Aug. 2018 – May 2019

Seoul National University, Seoul, Korea
- Bachelor of Science (B.S.) in Computer Science and Engineering — Mar. 2012 – Aug. 2018
  - Overall GPA: 3.68 / 4.0, Major GPA: 3.67 / 4.0
- Advisor: Prof. U Kang

PUBLICATIONS

JOURNAL PAPERS

[J4] 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.

[J3] **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.

[J2] Namyong Park, **Sejoon Oh**, and U Kang, "Fast and Scalable Method for Distributed Boolean Tensor Factorization", **VLDB Journal**, 2019.

[J1] **Sejoon Oh***, Jungwoo Lee*, and Lee Sael, "GIFT: Guided and Interpretable Factorization for Tensors with an Application to Large-Scale Multi-platform Cancer Analysis", **Bioinformatics**, 2018 (* these authors contributed equally to this work).

CONFERENCE PAPERS

[C8] **Sejoon Oh**, Julian McAuley, Berk Ustun, and Srijan Kumar, "FINEST: Stablizing Recommendations by Rank-Preserving Fine-Tuning", ACM Conference on Recommender Systems ***(RecSys)*** FAccTRec Workshop, 2023.

[C7] **Sejoon Oh**, Walid Shalaby, Amir Afsharinejad, and Xiquan Cui, "Hierarchical Multi-Task Learning Framework for Session-based Recommendations", ACM Conference on Recommender Systems ***(RecSys)*** ORSUM Workshop, 2023.

[C6] **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.

[C5] **Sejoon Oh**, Jongseok Han, Ankur Bharadwaj, Sungchul Kim, Ryan A. Rossi, and Srijan Kumar, "Implicit Session Contexts for Next-Item Recommendations", ACM International Conference on Information and Knowledge Management ***(CIKM)*** Short, 2022.

[C4] 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.

[C3] **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.

[C2] **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.
•Gold Prize Winner (1st in CS) from Samsung Humantech Paper Award
•Best Undergraduate Thesis Award from Seoul National University

[C1] Namyong Park, **Sejoon Oh** and U Kang, "Fast and Scalable Distributed Boolean Tensor Factorization" , *IEEE International Conference on Data Engineering (**ICDE**)*, San Diego, California, USA, 2017.

WORK EXPERIENCE

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

AWARDS & SCHOLARSHIPS

- **Kwanjeong Educational Foundation Ph.D. Fellowship** — Aug. 2019 – Present
  One of the most prestigious fellowships in Korea, which supports up to $\$30K$ USD per year
- **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
- The 38th Annual AAAI Conference on Artificial Intelligence (AAAI-24) — Aug. 2023
- ACM SIGKDD International Conference on Knowledge Discovery and Data Mining — Feb. 2023

PATENTS

USA
- Walid Shalaby, **Sejoon Oh**, Amir Hossein Afsharinejad, Xiquan Cui, "MACHINE LEARNING-BASED USER SELECTION PREDICTION BASED ON SEQUENCE OF PRIOR USER SELECTIONS", USPTO number: 17/947,117 (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.

TECHNICAL SKILLS

- C, Python, PyTorch, Tensorflow, and Keras (Advanced)
- Java, OpenCL, and MATLAB (Experienced)