Sejoon Oh

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RESEARCH INTERESTS

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

EDUCATION

Georgia Institute of Technology, Atlanta, GA
- Fourth-year Ph.D. Student 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

[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; to appear)***, 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; to appear)*** 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; to appear)*** 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.

AWARDS & SCHOLARSHIPS

- **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
- **Student Registration Award for KDD 2020** Aug. 2020
  Funded by both NSF and SIGKDD to attend 2020 ACM SIGKDD conference
- **Kwanjeong Educational Foundation Fellowship** Aug. 2019 – Present
  One of the most prestigious fellowships in Korea, which supports up to $\$30K$ USD per year
- **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
- **National Scholarship for Science and Engineering** Dec. 2017
  Awarded by Ministry of Science and ICT, Korea
- **Silver Medalist of Asia-Pacific Informatics Olympiad** May 2011
  Awarded at the 5th Asia-Pacific Informatics Olympiad (APIO), Iran
- **Gold and Silver Medalist** July 2008 – July 2011
  Awarded at Korea Olympiad in Informatics (KOI), Korea
- **Candidate for International Olympiad in Informatics (IOI)** Aug. 2008 – Aug. 2010
  Trained at IOI Summer and Winter School, Korea

RESEARCH EXPERIENCE

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-based data augmentation for neural tensor completion

Graduate Research Assistant, Georgia Institute of Technology
- Research area: adversarial machine learning and recommender system Aug. 2019 – Present

Data Science Research Intern, WATCHA, Inc.
- Research area: dynamic recommender system with deep learning May 2019 – Aug. 2019

Graduate Research Assistant, Carnegie Mellon University
- Research area: machine learning for computational biology problems Aug. 2018 – May 2019

Undergraduate Research Intern, Data Mining Lab., Seoul National University
- Research area: tensor analysis, recommender system, and HPC July 2016 – May 2018

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

PATENTS

USA
- Walid Shalaby, **Sejoon Oh**, Amir Hossein Afsharinejad, Xiquan Cui "Hierarchical Multi-Task Learning Framework for Session-based Recommendations", Patent number: 072031.251US3 (provisional).
- **Sejoon Oh**, Sungchul Kim, Ryan Rossi, "Enhancing Neural-Based Prediction of Multi-Dimensional Data via Influence and Data Augmentation", Patent number: P1038-US/364986 (filed).

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
- Web Search and Text Mining (Georgia Tech - CSE 6240) Spring 2021

TECHNICAL SKILLS

- C, Python, PyTorch, and OpenCL (Advanced)
- Java, C++, and MATLAB (Experienced)
- Scala, R, Tensorflow, and CUDA (Intermediate)