Sukwon Yun

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RESEARCH INTEREST	**Graph Neural Networks** ■ Alleviating and enhancing the *Weakness of Graph Neural Networks* where the inductive bias of GNNs do not hold ideally and designing robust GNN models under various circumstances as real-world scenarios ■ **Keywords**: Long-Tail Problem, Heterophily, Oversmoothing, Missing Features

EDUCATION

KAIST, Daejeon, South Korea   Sep 2021 – Present

■ M.S. in Industrial & Systems Engineering
  • Research Interest: Graph Neural Networks, Recommender Systems
  • Advisor: Prof. Chanyoung Park

Hanyang University, Seoul, South Korea   Mar 2015 – Aug 2021

■ B.S. in Industrial Engineering, GPA 3.7/4.0, *Summa Cum Laude*

PUBLICATIONS

CONFERENCES

[C1] LTE4G: Long-Tail Experts for Graph Neural Networks
Sukwon Yun, Kibum Kim, Kanghoon Yoon, Chanyoung Park
ACM International Conference on Information and Knowledge Management (**CIKM 2022**)

RESEARCH EXPERIENCES

Tokyo Institute of Technology (Tokyo Tech), Tokyo, Japan   Oct 2022 – Present

■ Visiting Student (Research-oriented) in Murata Lab.
  • Host: Prof. Tsuyoshi Murata
  • Focus: Missing Features in GNN, Heterophily in GNN

Korea Adavanced Institute of Technology (KAIST), Daejeon, South Korea   Dec 2020 – Feb 2021

■ Research Student in Data Science & Artificial Intelligence Lab. (DSAIL)
  • Advisor: Prof. Chanyoung Park
  • Researched fundamentals of spectral based Graph Neural Networks
  • Implemented key papers on Graph Neural Networks and Recommendation Systems
  • Gave presentations of GCN (link), GAT (link), BPR (link) during seminars

Hanyang University, Seoul, South Korea   Sep 2020 – Aug 2021

■ Research Student in Intelligent Data Systems Lab. (IDSL)
  • Advisor: Prof. Kichun Lee
  • Researched advanced version of Neural Graph Collaborative Filtering
  • Implemented Matrix Factorization of BPR model using multiprocessing on Epinion dataset
  • Implemented One-Class SVM on anomaly detection task using MNIST dataset

AWARDS & SCHOLARSHIPS

SIGIR Student Travel Award   2022
■ ACM International Conference on Information and Knowledge Management, Georgia, USA
Korea National Scholarship   2021 – Present
■ Awarded by Korea Ministry of Science and ICT
Hanyang Academic Achievement Award, Hanyang University   2021
■ Awarded within top 3% among the College of Engineering
Dean's List, Hanyang University   2018 - 2021
■ Academic Excellence Award
Certificate of Recognition, Seoul Metropolitan Police   2018
■ Awarded when serving military service as an auxiliary police

PROJECTS

Recommending Financial Products based on Graph Embeddings   Feb 2021 – Feb 2022

■ Collaboration with Hana Bank, South Korea
  • Generated financial networks via jaccard similarity from user's data and enhanced user representation via GNN

TEACHING EXPERIENCE

IE343: Statistical Machine Learning, KAIST   Spring, 2022
■ Hosted Kaggle Competition (Course Project) as a Teaching Assistant

REFERENCES

- **Prof. Chanyoung Park**, Assistant Professor, KAIST
  Email: cy.park@kaist.ac.kr

- **Prof. Kichun Lee**, Associate Professor, Hanyang University
  Email: skylee@hanyang.ac.kr

- **Prof. Tsuyoshi Murata**, Professor, Tokyo Tech
  Email: murata@c.titech.ac.jp