

# Junseok Lee

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## RESEARCH INTEREST

I am interested in conducting research on general machine learning methodologies (e.g., self-supervised learning) and applying them to real-world problems, with a particular focus on Bioinformatics (e.g., single-cell RNA analysis).

- Graph Representation Learning
- Bioinformatics

## EDUCATION

### KAIST (Korea Advanced Institute of Science and Technology)

- Ph.D. in Industrial and Systems Engineering Mar 2023 – Present
  - Research Interest: Graph Representation Learning, Bioinformatics
  - Advisor: [Prof. Chanyoung Park](#)

### KAIST (Korea Advanced Institute of Science and Technology)

- M.S. in Industrial and Systems Engineering Mar 2021 – Feb 2023
  - Research Interest: Graph Representation Learning
  - Advisor: [Prof. Chanyoung Park](#)

### Pusan University

- B.S. in Industrial Engineering Mar 2015 – Feb 2021
  - GPA: 4.15/4.5

## PUBLICATIONS

(†: Equal contribution)

### CONFERENCES

- [C6] Task-Equivariant Graph Few-shot Learning  
Sungwon Kim, **Junseok Lee**, Namkyeong Lee, Wonjoong Kim, Seungyoon Choi, Chanyoung Park  
ACM SIGKDD Conference on Knowledge Discovery and Data Mining (**KDD 2023**)
- [C5] Conditional Graph Information Bottleneck for Molecular Relational Learning  
Namkyeong Lee, Dongmin Hyun, Gyoung S. Na, Sungwon Kim, **Junseok Lee**, Chanyoung Park  
International Conference on Machine Learning (**ICML 2023**)
- [C4] Heterogeneous Graph Learning for Multi-modal Medical Data Analysis  
Sein Kim, Namkyeong Lee, **Junseok Lee**, Dongmin Hyun, Chanyoung Park  
AAAI Conference on Artificial Intelligence (**AAAI 2023 Oral Presentation**)
- [C3] Relational Self-Supervised Learning on Graphs  
Namkyeong Lee, Dongmin Hyun, **Junseok Lee**, Chanyoung Park  
ACM International Conference on Information and Knowledge Management (**CIKM 2022**)
- [C2] GraFN: Semi-Supervised Node Classification on Graph with Few Labels via Non-Parametric Distribution Assignment  
**Junseok Lee**, Yunhak Oh, Yeonjun In, Namkyeong Lee, Dongmin Hyun, Chanyoung Park  
ACM SIGIR Conference on Research and Development in Information Retrieval (**SIGIR 2022 Short Paper**)
- [C1] Augmentation-Free Self-Supervised Learning on Graphs  
Namkyeong Lee, **Junseok Lee**, Chanyoung Park  
AAAI Conference on Artificial Intelligence (**AAAI 2022**)

### JOURNALS

- [J2] Deep Single-cell RNA-seq data Clustering with Graph Prototypical Contrastive Learning  
**Junseok Lee**, Sungwon Kim, Dongmin Hyun, Namkyeong Lee, Yejin Kim, Chanyoung Park  
**Bioinformatics** (2023)
- [J1] Self-Supervised Graph Representation Learning via Positive Mining  
Namkyeong Lee, **Junseok Lee**, Chanyoung Park  
**Information Sciences** (2022)

### WORKSHOPS

- [W2] Single-cell RNA-seq data imputation using Feature Propagation  
Seokwon Yun<sup>†</sup>, **Junseok Lee<sup>†</sup>**, Chanyoung Park  
ICML Workshop on Computational Biology (**WCB 2023**) (**Best Paper, Contributed Talk**)
- [W1] Deep Single-cell RNA-seq data Clustering with Graph Prototypical Contrastive Learning  
**Junseok Lee**, Sungwon Kim, Dongmin Hyun, Namkyeong Lee, Yejin Kim, Chanyoung Park  
ICML Workshop on Computational Biology (**WCB 2023**)

<b>PROJECTS</b>	<b>Development of Artificial Intelligence-Based Insurance Claims Payout Prediction Model</b> 2021 <ul style="list-style-type: none"> <li>▪ Collaboration with Shinhan Life</li> </ul>
<b>TEACHING EXPERIENCE</b>	<b>Teaching Assistant</b> <ul style="list-style-type: none"> <li>▪ IE343: Statistical Machine Learning Spring 2022</li> <li>▪ KSE801: Special Topics in Knowledge Service Engineering <ul style="list-style-type: none"> <li>&lt;Recommender System and Graph Machine Learning&gt; Fall 2022</li> </ul> </li> </ul>
<b>PROFESSIONAL SERVICES</b>	<b>Journal Reviews</b> <ul style="list-style-type: none"> <li>▪ IEEE Transactions on Neural Networks and Learning Systems (TNNLS)</li> </ul>
<b>TALKS AND SEMINARS</b>	<b>Single-cell RNA-seq data imputation using Feature Propagation</b> <ul style="list-style-type: none"> <li>▪ Contributed talk on ICML Workshop on Computation Biology (WCB) 2023</li> </ul>
<b>REFERENCES</b>	<b>Prof. Chanyoung Park</b> Professor of Industrial and Systems Engineering KAIST (Korea Advance Institute of Science and Technology) cy.park@kaist.ac.kr • +82 (042) 350-3137

[CV compiled on 2023-08-08]