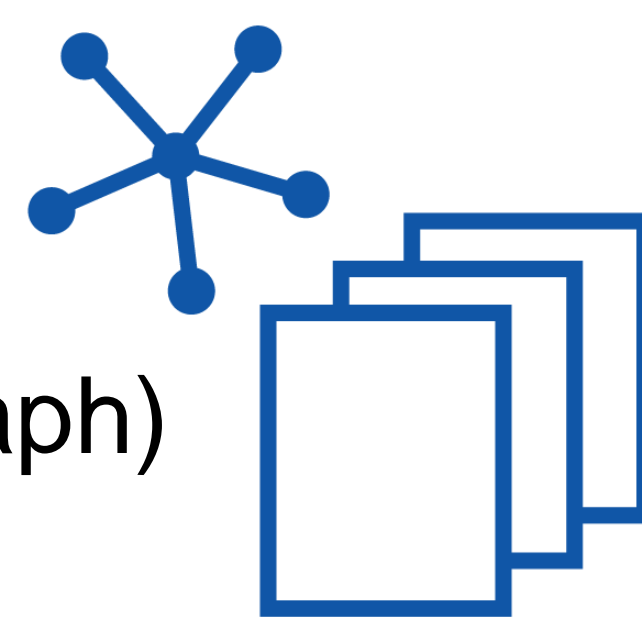


Welcome to Data Mining Laboratory in the Department of Computer Science and Engineering at Seoul National University. Our research interests lie in data mining and machine learning to find models, algorithms, and systems for data analysis. Specifically, we focus on the following research topics: graphs/tensors, recommender system, deep learning & machine learning, and financial AI.

## Graphs and Tensors

- **Goal**
  - Graph and tensor analysis and applications
- **Research Topics**
  - Graph mining (e.g., link prediction, ranking, and knowledge graph)
  - Graph neural network (e.g., node classification and representation learning)
  - Scalable tensor analysis and graph analysis



## Recommender System

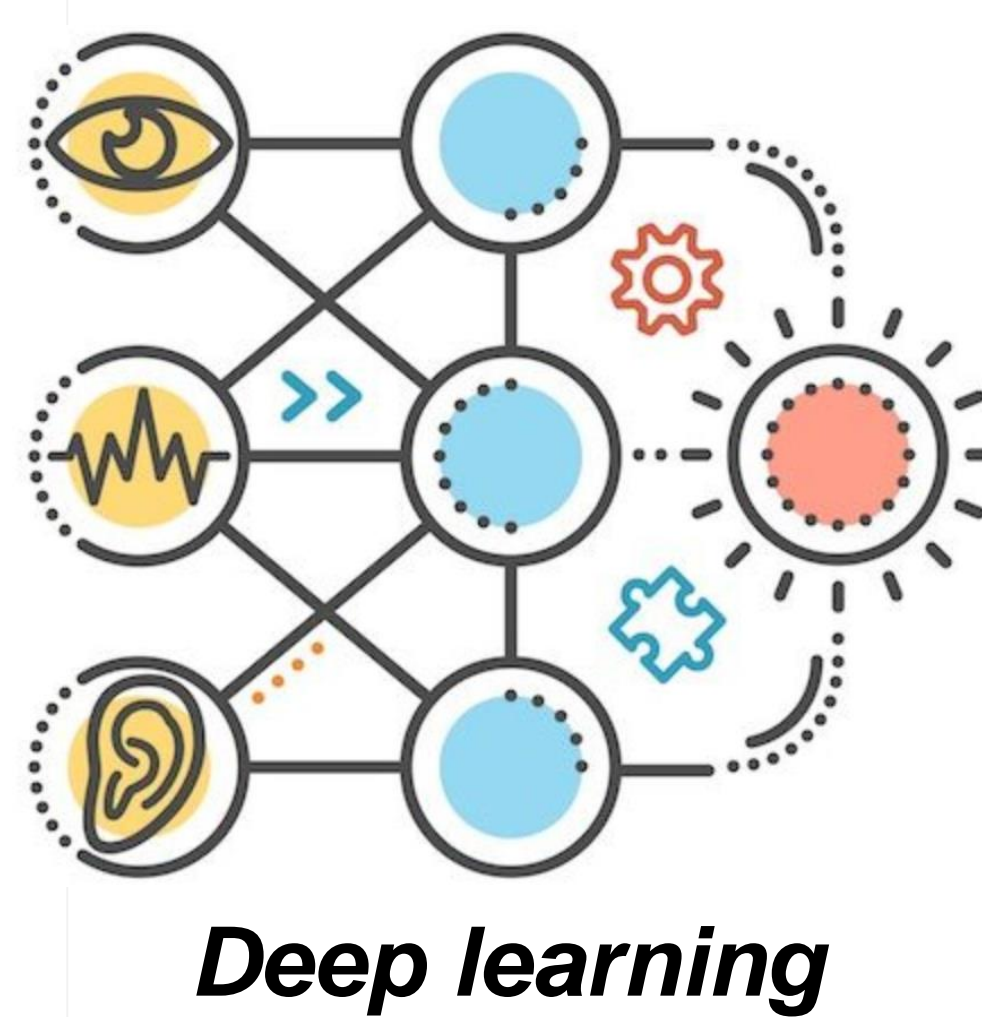
- **Goal**
  - Recommending appropriate items for users
- **Research Topics**
  - Diversified recommendation
  - Sequence recommendation (e.g., YouTube, News)
  - Active recommendation



Recommendation in networks

## Deep Learning & Machine Learning

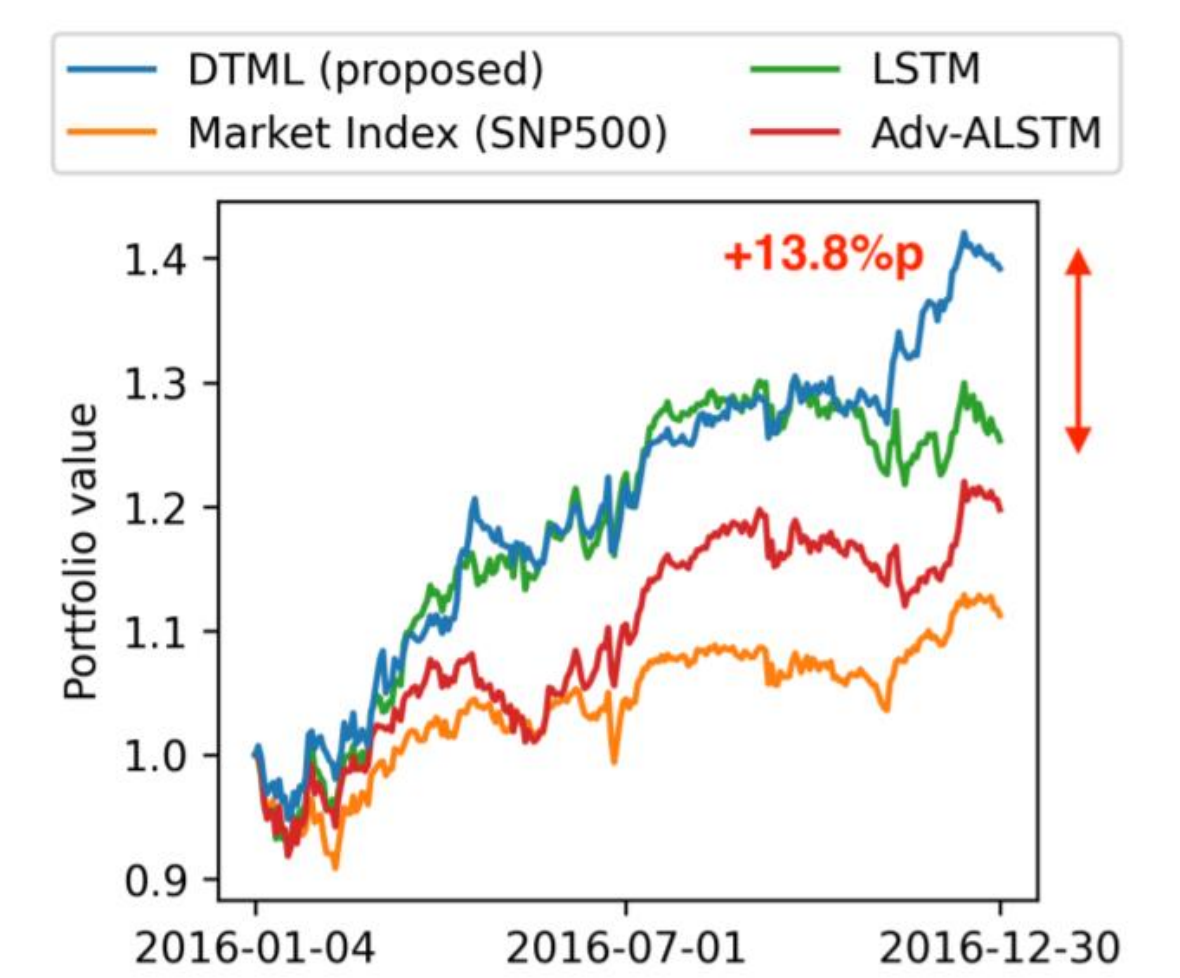
- **Goal**
  - Learn and improve from big data
- **Research Topics**
  - Fast and adaptive inference (e.g., model compression)
  - Fast and adaptive learning (e.g., AutoML and transfer learning)
  - Novel application (e.g., anomaly detection)



Deep learning

## Financial AI

- **Goal**
  - Learn and improve from financial data
- **Research Topics**
  - Time series prediction
  - Stock price prediction
  - Portfolio management with RL
  - Optimal trading strategy



Stock prediction

## 연구 실적

- 데이터 마이닝, 기계 학습 분야 세계 선도
- 국제 최우수 학회 및 SCI 저널에 131편 논문 출판 (KDD, WWW, ICDM, ICDE, NeurIPS 등)
- 국내/해외 특허 83편
- Best Paper Awards (국내 최다 수상)
  - 2022, ICDE Best Research Paper Award
  - 2021, KDD Best Research Paper Award (대한민국 최초)
  - 2020, PAKDD Best Student Paper Award
  - 2018, ICDM 10-Year Best Paper Award (대한민국 최초)

## 수상 실적

- 우수한 연구 실적에 기반한 수많은 수상 실적
- 2023, 최우수 박사/석사 학위 논문상 (SNU CSE)
- 2023, BK 스타 연구자 상
- 2022, 최우수 박사 학위 논문상 (SNU CSE)
- 2021, BK21 Plus 공과대학 우수 연구상
- 2020, MS 주최 뉴스 추천 세계 대회 수상
- 장학금: 울촌 AI Star Fellowship, Naver Ph.D. Fellowship, Qualcomm Innovation Fellowship, Google Ph.D. Fellowship
- 삼성 휴먼테크 논문 대상 (7년 연속 수상)

## 연구실 구성원 진로

- 졸업생 진로: 교수 (국내 대학 교수 3명), 스타트업 창업/입사, 대기업, 연구소 등

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