

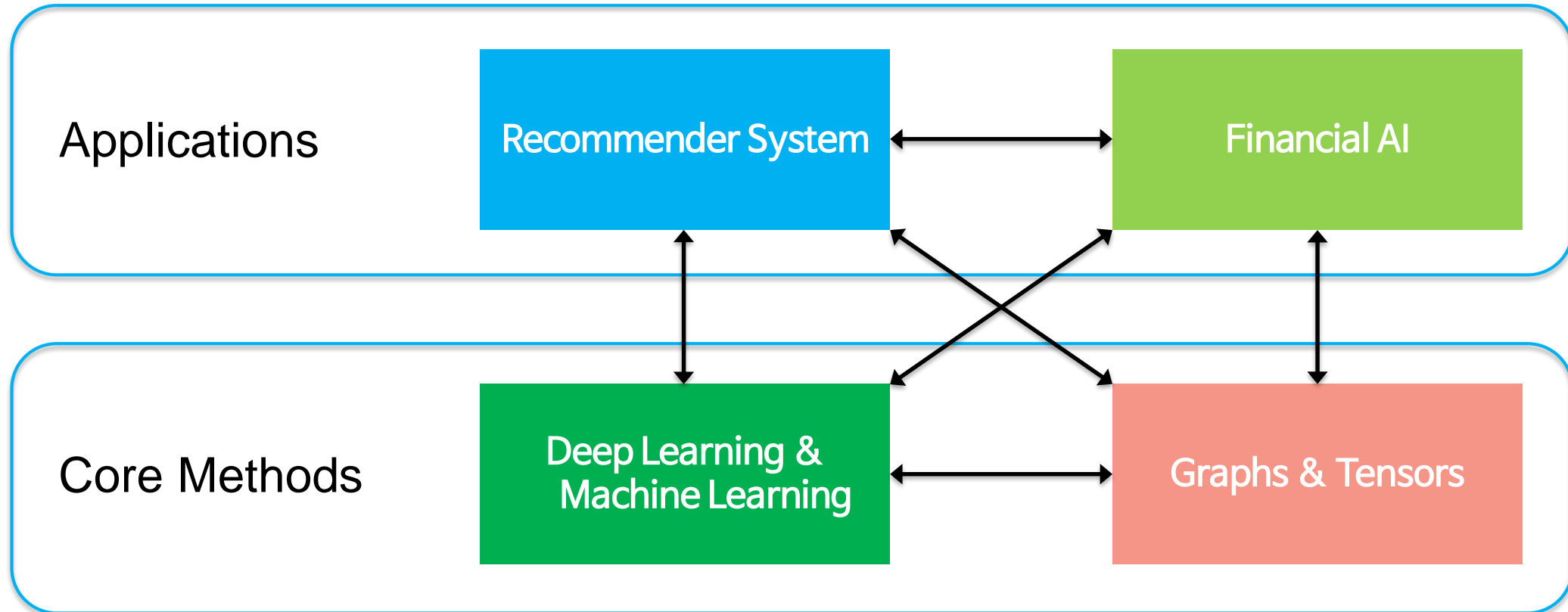
# Data Mining Laboratory

<http://datalab.snu.ac.kr>

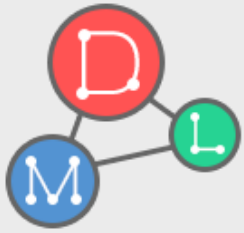


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## Methods and Applications for Data Mining and Machine Learning (AI)



All topics are tightly related



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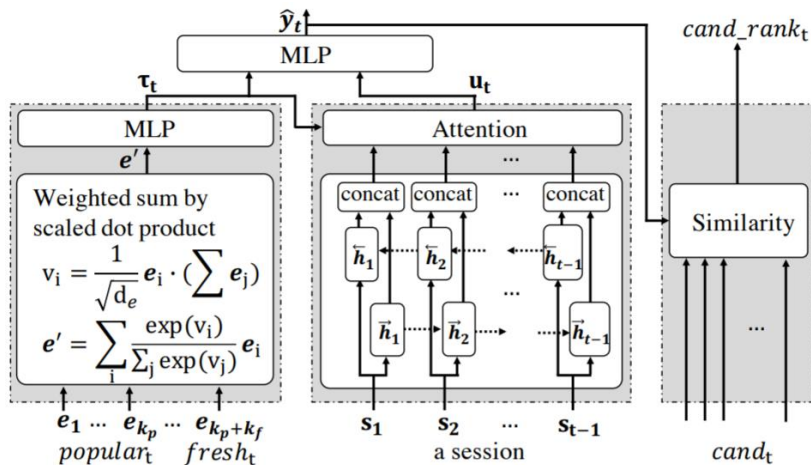
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## Recommender System

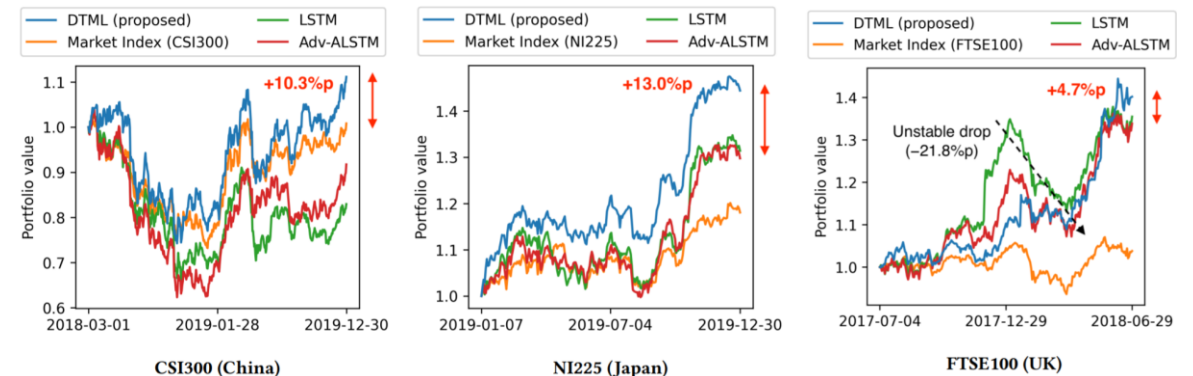
- Diversified recommendation
- Sequence recommendation
  - Video and news recommendation
- Active recommendation



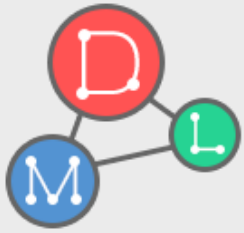
Accurate News Recommendation Coalescing Personal and Global Temporal Preferences (PAKDD **Best Student Paper**)

## Financial AI

- Time series prediction
- Stock price prediction
- Portfolio management and trading strategy



Accurate Multivariate Stock Movement Prediction via Data-Axis Transformer with Multi-Level Contexts (KDD)



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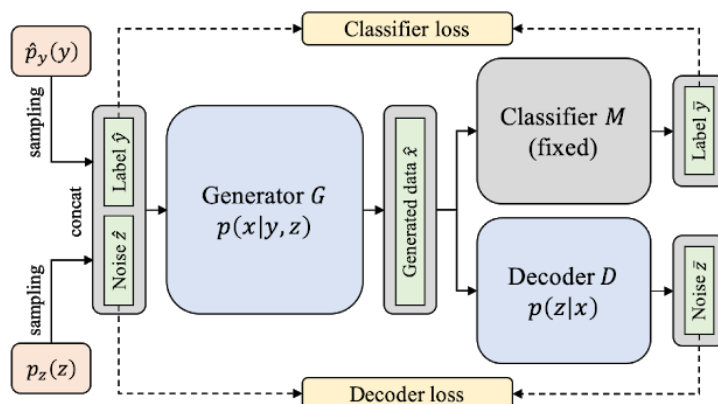
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## Deep Learning & Machine Learning

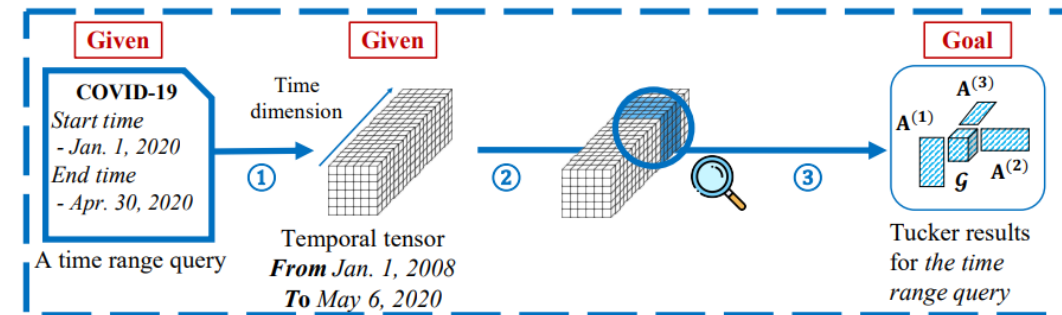
- Fast and adaptive inference
  - Model compression and online learning
- Fast and adaptive learning
  - AutoML and Transfer Learning
- Novel application: e.g., anomaly detection



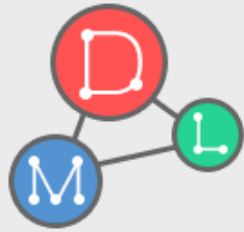
Knowledge Extraction with No Observable Data (NeurIPS)

## Graphs and Tensors

- Graph mining
  - Ranking, link prediction, relation inference, knowledge graph analysis, and graph summary
- Graph neural network
  - Node classification and representation learning
- Scalable tensor and graph analysis



Fast and Memory-Efficient Tucker Decomposition for Answering Diverse Time Range Queries (KDD Best Research Paper)



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## 최근 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 86편
- 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)

## 연구실 구성원 진로

- 졸업생 진로: 교수 (KAIST 등 국내 대학 교수 4명), 스타트업 창업/입사, 대기업, 연구소 등

## 수상 실적

- 우수한 연구 실적에 기반한 여러 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 Contact

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