Yujee Song

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Personal Profile

I am currently pursuing a Master's degree in machine learning at POSTECH under the supervision of Professor Won Hwa Kim. My research centers around generative models using dynamical systems. Previously, I have specialized in modeling marked temporal point processes using Neural ODEs. Presently, I am exploring diffusion networks for graph structures using topological data analysis.

Education

POSTECH *Pohang, Republic of Korea*

MSc. in Artificial Intelligence *Feb 2023 - Current*

- Class President, Graduate Schoool of Artificial Intelligence

Chung-Ang University *Seoul, Republic of Korea*

BSc. in Compute Science and Engineering *Mar 2020 - Feb 2022*

- Cumulative GPA: 4.47/4.50
- Summa Cum Laude

University of California, Irvine *CA, USA*

BSc. in Computer Science and Engineering *Sep 2015 - Apr 2017*

- Cumulative GPA: 3.61/4.00
- Dean's Honors List: 5 Semesters

Research Interests

- Time Series Modeling
- Explainable AI
- Generative Model
- Graph Machine Learning

Publications

Generative Modeling for Brain Images from Genetics Information (under review)
co-author

Decoupled Marked Temporal Point Process using Neural Ordinary Differential Equations
Yujee Song, Donghyun LEE, Rui Meng, Won Hwa Kim
The Twelfth International Conference on Learning Representations (ICLR), 2024

Projects

Topology-aware Graph Diffusion Model for Brain Network Generation *Pohang, Korea*

POSTECH *Jan 2024 - Mar 2024*

- Analyzed the impact of integrating Topological Data Analysis (TDA) into graph generation for brain networks.
- Conducted experiments using state-of-the-art methods to assess the influence of TDA on graph generation outcomes.
- Processed brain network data from the ADNI dataset into a suitable format for graph generation purposes.

Efficient High Order Feature Transform for few-shot segmentation *Pohang, Korea*

POSTECH *Sep 2023 - Dec 2023*

- Adapted a 3D Feature Transform layer to a 2D Feature Transform layer for application in segmentation tasks.
- Completed as part of a deep learning class project.

Alzheimer Disease Diagnosis from Brain Signal *Pohang, Korea*

POSTECH, joint research with KIST *Aug 2023 - Dec 2023*

- Utilized resting EEG, resting ERP, and attention ERP signals for Alzheimer Disease (AD) diagnosis.
- Processed and analyzed brain signals to develop neural architectures for effective diagnosis.
- Collaborated with a researcher from KIST to enhance diagnostic methods using brain signal data.

Languages

English Professional proficiency
Korean Native proficiency