

# Yujee Song

Pohang University of Science and Technology

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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 modeling 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 School 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

- Generative Model
- Time Series Modeling
- Dynamical System Modeling
- 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