Jong Sung Park

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Education

Sogang University, Korea   **February 2019**
Bachelor of Science Candidate in Life Science;

Indiana University, Bloomington   **May 2021**
Masters in Computer Science at SICE

Indiana University, Bloomington   **Estimated graduation date : May 2026**
Ph.D. in Intelligent Systems Engineering and Neuroscience

Pre-academic Experience

Microelectronics Lab, Sogang University, Research Assistant   **Sep. 2018 to Dec. 2019**
- Learned about electronic efficiency of Neural Network models
- Advised on Spiked Neural Network, a more bio mimic form of Neural Networks
- Accumulated experience using BRIAN python library for SNN

Plant Molecular Biology Lab, Sogang University, Research Assistant   **Dec. 2016 to August 2017**
- Performed DNA analysis on plant samples using SDS-PAGE and grinding techniques.
- Researched growth difference of *Oryza sativa japonica* in various environments
- Analyzed research data to recognize the activation/regression line of a specific gene.

Badminton Club, Sogang University, Economy Advisor   **Sep. 2017 to Dec. 2017**
- Arranged spending funds on club events
- Advised group's plans on exercise on the semester
- Made changes in unreasonable club policies

Publications

***JS Park**, S Fadnavis, and E Garyfallidis.*
"Multi-scale V-net architecture with deep feature CRF layers for brain extraction." Communications Medicine (2023). (Under publication).
- Brain extraction and result refinement method using Deep Learning and CRFs

*E Garyfallidis, S Fadnavis, **JS Park**, BQ Chandio, J Guaje, S Koudoro and N Anousheh*
ThetA--fast and robust clustering via a distance parameter. arXiv preprint arXiv:2102.07028 (2021).
- Fast clustering method with a continuous single parameter

*D Romero-Bascones, BQ Chandio, S Fadnavis, **JS Park**, S Koudoro, U Ayala, M Barrenechea and E Garyfallidis*
Bundleatlasing: unbiased population-specific atlasing of bundles in streamline space. Proc. ISMRM. 2022.
- Method to compute population representing bundle atlas without bias

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Teaching Experience

Korea Student Aid Foundation, Youth Tutoring, June 2016 to August 2017
- Served as a mentor and tutor for the students of underprivileged backgrounds
- Coordinated key relationship-building projects in community
- Offered help in educational activities in summer vacation

Google Summer of Coding, Mentor, Summer 2021
- Served as a mentor for an open source project
- The project lead to publication and code was provided open source

Image Processing for Medical Applications, Deep Learning Section, Spring 2022
- Covered basics of Deep Learning
- Introduced various ways Deep Learning can be used in Neuroimages
- Provided examples and homework on implementing a small model

Introduction to Neuroengineering, DIPY tutorials, Fall 2022

- Introduced DIPY, an open source diffusion MRI analysis tool
- Went through tutorials with base knowledge about the functions

Introduction to Neuroengineering, Deep Learning Section, Fall 2023
- Covered various Deep Learning model architectures
- Presented multiple medical imaging Deep Learning models
- Explained supervised and unsupervised medical image models through examples

Independent Studies, Project Leader, Spring 2023
- Provided a baseline for project ideas
- Supervised project progress

Reviews
ICLR 2022-2024, ICML 2023

Awards & Honors
2nd Place, Startup Competition hosted by Sogang University,   **Jan. 2017**
- Served as a CFO on the award-winning team
- Created a project on developing a probiotic mouth sanitizer as a team

Dual Ph.D. program in Intelligent Systems Engineering and Neuroscience, full funding
- 4 years of funding for Assistant Instructorship from Program in Neuroscience
- Rebec Fellowship
- 1 year of funding for Research Assistantship from the Department of Optometry

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Technical Skills
Computer proficiency
- Computer language : Python/C/C++
- Research related: Tensorflow, Pytorch
- Lab related: SPSS – Bioinformatics analysis software

General laboratory
- SDS-PAGE, PCR, DNA/RNA extraction and analysis

Language
Korean, English

Hobby
Badminton, Writing Songs, Playing Games