Kyochul Jang

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Education

Purdue University Graduation: Fall 2023
Bachelor of Science in Computer Science (CGPA: 3.71 / 4.00) *West Lafayette, Indiana*

Seoul National University Graduation: Spring 2026
Master of Science in Artificial Intelligence *Seoul, Korea*

Research Experience

HCC Lab - Seoul National University 07/2024 – Present
Graduate Researcher *Seoul, Korea*

- Conducting research on LLM Evaluation Metrics to assess the quality and performance of text generated by large language models.
- Exploring how AI-human interaction can enhance human life through innovative and practical solutions.

DMIS Lab - Korea University 01/2024 – 06/2024
AI Researcher *Seoul, Korea*

- Contributed to in-depth SOTA studies, participated in insightful research seminars and Stanford CS224n studies, and present pioneering research findings.
- Participated in the ”Reliable Text-to-SQL on Electronic Health Records” challenge to develop a language model that generates queries from user instructions. My responsibilities included analyzing and identifying trends in unanswerable queries to enhance model accuracy and reliability.
- Collaborated on a project focusing on multi-document summarization techniques designed to assist researchers in efficiently composing the related work sections of their papers.

SIMPLE Lab - Purdue University 10/2022 – 12/2023
Undergraduate Research Assistant / Undergraduate Researcher *West Lafayette, Indiana*

- Finetuned the cutting-edge Large Language Model (LLM) by leveraging the Alpaca methodology, built on the foundation of the LLaMA2 model, with the strategic application of LoRA and 4-bit Quantization for enhanced performance and computational efficiency using Huggingface.
- Analyzed over 100 models utilizing YOLOv5 in the intersection of computer vision and civil engineering, focusing on Transfer Learning and Domain Adaptation. This extensive study led to the publication of a co-authored journal paper.
- Developed a program utilizing the YOLOv5 Object Detection model to automatically delete videos featuring more than two individuals from a dataset of 25,000 videos totaling 1.4 TB and to apply automatic blurring on human faces for privacy enhancement using the DeepFace model.

HBF Lab - Seoul National University 05/2022 – 08/2022
Undergraduate Researcher *Seoul, Korea*

- Conducted in-depth analysis and delivered presentations on the effectiveness of various Machine Learning models, such as DNN and RNN, in Deep Learning.
- Conducted Speech-Decoding experiments on individuals with epilepsy, analyzing neural data to identify key features for the SVM Machine Learning model in a four billion dollar government-led project called ”Alchemist.”

The Data Mine - Purdue University & UPS 08/2021 – 05/2022
Undergraduate Data Science Researcher *West Lafayette, Indiana*

- Collaborated with UPS on Cross Reference and used Python and PowerBI to analyze the dataset provided by UPS using internal and external resources to give UPS insight into what portfolio companies to invest in.
- Developed a predictive model using a K-means algorithm in the Scikit-Learn framework with the data to access the potential of portfolio companies with which UPS could partner.

Work Experience

Naver Connect 07/2024 – Present
AI Tech Teaching Assistant - Generation for NLP *Remote*

- Develop and review lecture content, including videos, assignments, and guides, while designing course objectives and evaluation criteria for the AI Tech NLP track.
- Create and manage leaderboard-style competitions, including setting up datasets, evaluation metrics, and tutorials, and ensuring smooth operation of the stages.ai platform, while organizing educational sessions and seminars for students.

Samsung Electronics 06/2023 – 08/2023
Software Engineering Intern *Suwon, Korea*

- Developed an automated program utilizing a probabilistic methodology to identify mobile AP program performance segments in Galaxy series products.
- Conducted in-depth analysis of current and voltage usage in application processes utilizing Geekbench5.

Department of Computer Science 08/2022 – 12/2023
Undergraduate Teaching Assistant - CS 17700 *West Lafayette, Indiana*

- Created customized Python assignments for students based on their level of proficiency and course requirements, ensuring effective learning outcomes.
- Instructed course materials and provided guidance to students in lab sessions while also assisting the Graduate Teaching Assistant in supervising and grading student work.

Independent 05/2022 – 08/2022
Web Development Tutor *Seoul, Korea*

- Provided personalized web development tutoring to two design students, guiding them through creating and deploying their websites from scratch.
- Designed a 12-week course about web development. — Course Website: officerchul.github.io/webDev101

Purdue University Residences 08/2021 – 05/2022
Student Office Staff *West Lafayette, Indiana*

- Served as a front-line representative of University Residences within the First Street Towers residence hall.
- Learned how to treat customers in various situations and how the Residence system works at Purdue University.

Bridging Group Korea 06/2020 – 07/2020
Moderation Intern *Seoul, Korea*

- Successfully managed a diverse group of 500 international buyers and sellers, utilizing fluency in Korean, English, and Chinese, while moderating SPP2020, a high-profile event sponsored by the Seoul Business Agency.
- Acquired valuable customer service experience and a comprehensive understanding of the Residence system at Purdue University through various situations.

Publication

i) Kim, H., Kim, C., Lee, H., **Jang, K.**, Lee, J., Lee, K., Kim, G., Kang, J. (2024). KU-DMIS at EHRSQL 2024: Generating SQL query via question templatization in EHR. NAACL. https://aclanthology.org/2024.clinicalnlp-1.64

ii) Oh, D., Kang, K., Seo, S., Xiao, J., **Jang, K.**, Kim, K., Park, H., Won, J. (2023). Low-Cost Object Detection Models for Traffic Control Devices through Domain Adaption of Geographical Regions. Remote Sensing. https://doi.org/10.3390/rs15102584

Conference Presentation

i) Purdue Undergraduate Research Conference | 2023
Jang, K., Oh, D., Kang, K. (2023). Domain Adaptation Using Pre-trained Object Detection Models for Traffic Control Devices in Other Geographical Regions. *Purdue Undergraduate Research Conference*

ii) The Data Mine Corporate Partners Symposium | 2022
Alhasan, Isslam., Ghaisas, Mihika., Iyer, Sankaran., **Jang, K.**, Kris, Leungwattanakij., Zheng, Annie. (2022). Prediction Model to Help UPS Identify Potential Companies that Yields Positive Results for the Company Using K-Means Algorithm. *The Data Mine*

Leadership Experience

Purdue Korean Association (PKA) 08/2021 – 08/2023
Recruiting Team Leader *West Lafayette, Indiana*

- Led a team of 10 members, the largest in the association, and collaborated with Korean companies to recruit talented individuals worldwide.
- Secured club operation fees through successful donation requests from prominent companies such as Samsung Electronics, LG, and SK Innovation, resulting in $ 7,000 raised for the semester.

Republic of Korea Army 08/2018 – 03/2020
Squad Leader *Seoul, Korea*

- Served as a squad leader of a radio operation squad in the military at Capital Defense Command.
- Worked as a translator of Chinese, English, and Korean at Army Headquarters.

Projects Experience

Purdue Korean Association Website Development | *Typescript, React, Figma, Next.js, Nest.js* 08/2023 – Present

- Build a renewal Purdue Korean Association Official Website, independently creating a custom solution without relying on any Content Management System (CMS).
- Contribute to front-end and back-end development tasks using Next.js (React.js) and Nest.js while utilizing Figma for UI/UX design to enhance user experience. | Website: https://purdueka.org/ (WIP)

Portfolio Website | *React.js, HTML, Netlify, Tailwind, Firebase* 08/2022 – Present

- Created and deployed my portfolio website from scratch using Firebase, React.js, CSS, and HTML without relying on pre-existing templates. | Website: www.kyochuljang.com (WIP)

Neural Data Analyzation Program | *Python Dash* 08/2022

- Developed a user-friendly web application using Scipy for noise processing and Python Dash to assist neuroscientists in analyzing and plotting neural data without the need for coding knowledge. | Website: https://github.com/OfficerChul/Neural-Data-AutoPlot-Program

Online Networking Platform | *Java, JUnit Test* 11/2020 – 12/2020

- Developed a social networking application similar to LinkedIn, allowing job seekers to showcase their skills and interests to potential recruiters.
- Conducted comprehensive testing of all program functions developed by team members using JUnit, successfully identifying and resolving defects to ensure optimal program performance. | Website: https://github.com/OfficerChul/Social-Network-Profile-Application

Awards And Honors

1st Prize (LG AI Hackathon) 04/2024

Dean's List 08/2021 – 12/2023

Semester Honors 01/2021 – 12/2023

Proficiency in Skills

Languages: English (Full Professional Proficiency), Chinese (Full Professional Proficiency), Korean (Native)
Programming Languages: Python, Java, C, C++, R, JavaScript (React.js), LaTeX, CSS, HTML
Tools: GitHub, OBS, Visual Studio Code, Artificial Neural Network (ANN), TensorFlow, Premiere Pro
Certification: HSK (Level 6), Craftsman Information Processing