



Jongmoon Ryu

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“The people who are crazy enough to think they can change the world are the ones who do.”

Education

Gachon University

B.S. IN SOFTWARE ENGINEERING

- Total GPA of 3.99 / 4.5, Major GPA of 4.21 / 4.5 (Credits taken : 98/120)

Seong-Nam, Korea

Mar. 2018 - Feb. 2025

Experience

2024 Mathematics for AI

TEACHING ASSISTANT

- Assisted in teaching linear algebra and optimization theory for deep learning.
- Provided explanations for assignments and created example solutions.

Seong-Nam, Korea

Mar. 2024 - PRESENT

LaTrobe & Monash University Lab. Internship

LABORATORY INTERNSHIP

- Learned a concept and implementation of Geospatial Database Processing using PostGIS, QGIS, Spatial SQL
- Completed two geospatial projects including analyzing the movements of the elderly in Seoul.
- Got a Runner Up Project Award 2024 within laboratory groups.
- Co-advised by Prof. Wenny Rahayu and Prof. David Taniar.

Melbourne, Australia

Jan. 2024 - Feb. 2024

2023 Algorithm

TEACHING ASSISTANT

- Introduction to algorithm problem-solving methods and strategies for students.
- Lectures and mentoring sessions for passing corporate coding tests.
- Grading of assignments and exams conducted during lectures.

Seong-Nam, Korea

Sep. 2023 - Dec. 2023

ISNLP Lab, Gachon University

RESEARCH ASSISTANT

- Presentation of recent research trends in TTS (Text-to-Speech) synthesis.
- Study on speech synthesis papers enabling emotion control through labeled or referenced audio.
- Advised by Prof. Sangwoo Kang in Gachon Univ.

Seong-Nam, Korea

Sep. 2023 - Dec. 2023

Smilegate AI Membership 3rd

AI ENGINEER & BACKEND ENGINEER

- Led a personalized custom audiobook speech synthesis project utilizing FastSpeech2 and RVC models.
- Modified the model to extract user voice features using a small amount of audio data.
- Developed using AWS instances such as Sagemaker, EC2, and RDB (Supported by MegaZoneCloud).
- Selected as an outstanding project.

Pangyo, Korea

Jun. 2023 - Nov. 2023

SIL Lab, Gachon University

RESEARCH ASSISTANT

- Study of papers on (Knowledge) graph-based recommendation systems.
- Advised by Prof. Jaeyoung Choi in Gachon Univ.

Seong-Nam, Korea

Mar. 2023 - Jul. 2023

Naver Boostcamp AI Tech 3rd

RECOMMENDER SYSTEM TRACK

- Studied fundamental and advanced topics in deep learning, focusing on recommender systems.
- Participated in 3 competitive projects and 1 final project on graph-based recommender systems.
- Contributed to community by writing outstanding competition posts in internal competitions.

Seoul, Korea

Jan. 2022 - Jun. 2022

R.O.K Army, 1st Logistics Support Command

BATTLEFIELD OPERATING SYSTEM MANAGER (COMPULSORY MILITARY SERVICE)

- Revamped the unit's homepage for enhanced user convenience (from IE-based to Chrome-based).
- Identified and proposed the unit's internal network issues, leading to the completion of network infrastructure rebuilding.
- Managed server system backups and maintenance.

Wonju, Korea

May. 2020 - Nov. 2021

- Accepted to Gachon University's overseas language program in 2020 winter semester.

Projects

Sing To Me: Singing Voice Conversion

TEAM LEADER

Gachon Univ.

Mar. 2023 - PRESENT

- A capstone design project conducted over three semesters at Univ.
- Developed a project for changing vocal voices in music.
- Integrated the RVC model for voice conversion with the VITS model for speech synthesis.
- Utilized the UVR model to accurately separate vocals and MR, and performed voice conversion using the RVC model.

Audio Book for kids using Personalized TTS System

TEAM LEADER

Smilegate AI Membership

Jun. 2023 - PRESENT

- A project undertaken during the Smilegate AI Membership period.
- Created audio book content based on text using a small amount of parental voice data.
- Developing a speech synthesis system incorporating emotions by extracting emotion labels from text.
- Created audiobooks using the FastSpeech2 model and performed voice conversion to parental voice using the RVC model.

Gachon Go: An On-Campus Delivery Service

TEAM LEADER

Gachon Univ.

Mar. 2023 - Jul. 2023

- Term project conducted in the "Mobile Programming" course offered during the spring semester of 2023.
- Developed an application using Kotlin to implement a delivery system for on-campus students.
- Integrated Kakao payment system, implemented services on AWS, and incorporated real-time location services using Naver Maps API.
- Selected as an outstanding project in the entire class and presented at an department's event.

What's In Your Closet: A Fashion Recommender System

TEAM MEMBER

Naver Boostcamp

May. 2022 - Jun. 2022

- Final project completed during Naver Boostcamp AI Tech.
- Developed a clothing recommendation service based on existing clothing using the LGCN model, a graph-based recommender system.
- Automated data collection and preprocessing processes, developed in a cloud environment using Google Cloud Platform (GCP).
- The Light GCN model identifies interaction patterns between clothing items and recommends new items.

DKT: Deep Knowledge Tracing

TEAM MEMBER

Naver Boostcamp

May. 2022 - Jun. 2022

- Competition style project completed during Naver Boostcamp AI Tech. (2nd Place / 22 Team)
- Task involved tracking users' problem-solving history to predict future problem-solving outcomes based on their knowledge state.
- Ensemble of Decision Tree and LSTM-Attention models.
- Enhanced LSTM-Attention model to focus more on history with similar problem tags for predictions.

Movie Recommendation

TEAM MEMBER

Naver Boostcamp

Apr. 2022 - May. 2022

- Competition style project completed during Naver Boostcamp AI Tech. (3rd Place / 25 Team)
- Recommending personalized movies to users based on their viewing history and movie attributes.
- Built a recommendation system by ensembling BERT4Rec, Multi-VAE, and S3-Rec models.

Mask Wearing Classification

TEAM MEMBER

Naver Boostcamp

Apr. 2022 - Apr. 2022

- Competition style project completed during Naver Boostcamp AI Tech. (4th Place / 57 Team)
- Project classifying mask-wearing status during the COVID-19 era.
- Employed FaceNet, EfficientNet, and data augmentation techniques to achieve significant performance improvement.
- Implemented CutMix technique and FaceCrop methodology, yielding positive results.

Scholars & Awards

SCHOLARS

2024	International Internship Program , 2024 Winter semester internship at LaTrobe and Monash University	SW Centric Univ.
2024	Academic Excellence , Awarded to students with high achievements throughout the semester (Fall)	Gachon Univ.
2023	Academic Excellence , Awarded to students with high achievements throughout the semester (Spring)	Gachon Univ.
2020	Academic Excellence , Awarded to students with high achievements throughout the semester (Fall)	Gachon Univ.
2019	Academic Excellence , Awarded to students with high achievements throughout the semester (Spring)	Gachon Univ.
2019	Exchange student , Language course at United Kingdom	Gachon Univ.

AWARDS

2024	2nd Place , Analyzing the movements of the elderly in Seoul	LaTrobe Univ.
2023	Excellence Prize , Gachon Univ. Department of AI Software's Day Event 2024 (Open Source)	Gachon Univ.
2023	Excellence Prize , Gachon Univ. Department of AI Software's Day Event 2024 (Mobile Programming)	Gachon Univ.
2018	1st Place , Gachon Han-maum Programming Contest	Gachon Univ.

Extracurricular Activity

GDSC(Google Developer Student Club) Gachon	Seong-Nam, Korea
MEMBER	Jun. 2023 - PRESENT
<ul style="list-style-type: none"> Participated in a study on emotion embedding in natural language processing. 	

Payload	Seong-Nam, Korea
MEMBER & CORE MEMBER FOR ALGORITHM PART	Sep. 2018 - Dec. 2019
<ul style="list-style-type: none"> Learned web hacking and reverse engineering. Led algorithm study group as a study group leader for one year, conducting algorithm lectures. 	

Skills

Languages	Korean(native), English(intermediate), Japanese(intermediate)
Programming	Python, JAVA, C/C++, LaTeX
Frameworks	PyTorch
DevOps	AWS, Docker

Others

TOEIC	840
Algorithm	Baekjoon Online Judge 1760 solved