

Bumku Choi

SOFTWARE ENGINEER · STUDENT DEVELOPER

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“Life is not a grid, but an optimization algorithm.”

Education

DAU(Dong-A University of Science and Technology)

B.S. IN COMPUTER SCIENCE AND ENGINEERING

Busan, S.Korea

Mar. 2019 - PRESENT

Skills

Programming Python, C/C++, JAVA, JavaScript

Artificial intelligence Pytorch, TensorFlow, Pandas, Numpy, Matplotlib

Database Mysql, Neo4j

Languages Korean, English

Experience

DAU Data Science Labs

SOFTWARE ENGINEER & AI&BIGDATA RESEARCHER (UNDERGRADUATE RESEARCH)

Busan, S.Korea

Feb. 2023 - PRESENT

- Developed a system (CONREC) that recommends videos for continuous growth based on users' understood concepts.
- Researched PageRank and Sentiment analysis for product review video content in collaboration with Samsung researchers.
- Developed a framework for more efficient access to Bigdata provided by Busan Smart City.
- Studied various Graph Neural Networks (GNNs), read related papers, and also engaged in development.

Dong-A University

SOFTWARE ENGINEER & AI ENGINEER (UNDERGRADUATE)

Busan, S.Korea

Mar. 2019 - PRESENT

- Developed and researched a POI recommendation system using the Yelp dataset.
- Developed a traffic signal optimization framework based on AI-powered traffic prediction.
- Studied various neural networks including MLP, CNN, RNN, and Transformers, and enhanced my AI skills through hands-on development.

DAU GDSC(Google Developer Student Clubs)

SOFTWARE ENGINEER & CORE MEMBER

Busan, S.Korea

Sep. 2022 - PRESENT

- Conducted hackathons and projects on topics that address the UN's Sustainable Development Goals. Developed a recipe recommendation system based on LLM for young children to cook on their own when their parents are not at home.
- Developed an AI framework for classifying causes based on baby crying sounds.
- Developed a song recommendation system that identifies an individual's vocal range and suggests songs accordingly.
- Conducted various studies within the club (Big Data processing & visualization, JavaScript, React).

Artificial Intelligence & Big Data Grand Challenge

STUDENT

Busan, S.Korea

Jul. 2023 - Sep. 2023

- Studied widely-used AI technologies, learned about their recent applications, and enhanced AI capabilities through hands-on practice.

Honors & Awards

INTERNATIONAL

2023.09 **Paper Publish**, KaRS - RecSys 2023 Workshop

Singapore

DOMESTIC

2024.04 **Encouragement Prize**, Spring Conference 2024 (Undergraduate Presentation Section) in The Korea Institute of Intelligent Transport Systems

Jeju, S.Korea

2023.11 **Grand Prize**, DevDay 2023 (Upper Grade Track) in Dong-A University

Busan, S.Korea

2023.08 **Encouragement Prize**, DevDay 2023 (AI/SW track) in Dong-A University

Busan, S.Korea

Presentation

The Korea Institute of Intelligent Transport Systems (Spring Conference 2024)

Jeju, S.Korea

PRESENTER FOR <DEVELOPMENT AND EVALUATION OF AI-BASED TRAFFIC SIGNAL OPTIMIZATION TECHNIQUES>

Aug. 2023

- Introduced AI-based traffic signal optimization techniques.

DevDay (AI/SW track)

Busan, S.Korea

PRESENTER FOR <CONREC>

Aug. 2023

- Introduced on the CONREC system, which recommends educational videos tailored to the user's level.

Writing

Improving Busan's Intersection Traffic Signal System Based on Deep Learning

*The 90th Spring Conference -
Korean Society of Transportation
2024*

SECOND AUTHOR

Dec. 2023 - Feb. 2024

- Developed a Traffic Signal Optimization Framework through Traffic Prediction at Yeonsan Intersection in Busan, and Authored a Related Paper.

CONREC Continuous Recommendation of Online Learning Videos Based on Concept Maps

KaRS - RecSys 2023 Workshop

CO-AUTHOR

Jul. 2023 - Sep. 2023

- After developing the CONREC application, I wrote a paper based on it, which was published in the KaRS - RecSys 2023 Workshop.