

# Hyoung Jo Bhang

SOFTWARE ENGINEER

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## Experience

### VoyagerX

MACHINE LEARNING ENGINEER

- Introduced white balance card for natural image color correction (ongoing)
- Relieved color distortions caused by light reflections on papers of various materials
- Enhanced image quality by predicting black point or reference black, resulting in a more vivid image
- Revised post-processing logic for OCR (optical character recognition) and proceeded with major version updates for the server
- Standardized DevOps for the machine learning team i.e. coding conventions, DVC, Docker, Github Actions

Seoul, S.Korea

Dec. 2023 - Present

### Elice (Online Programming Education Platform)

FRONTEND DEVELOPER

- Built course/track information page and enhanced embedded code editor, git statistics graph
- Contributed over 100 commits to seven projects in two months

Seoul, S.Korea

Dec. 2019 - Feb. 2020

## Education

### KAIST (Korea Advanced Institute of Science and Technology)

B.S. IN COMPUTER SCIENCE AND ENGINEERING

- Certificate in Artificial Intelligence

Daejeon, S.Korea

Mar. 2017 - Aug. 2023

### Jungsan High School, Seoul

STUDENT

- Third in graduation (out of 480)

Seoul, S.Korea

Mar. 2014 - Feb. 2017

## Project

### Autoencoder Knowledge Distillation

OPTIMIZATION AND STATISTICAL INFERENCE LAB (OSI LAB)

- Transferred knowledge from a larger to a smaller model via autoencoder (BERT, T5)
- Obtained an equal, or 2.6%, increase in accuracy compared to fine-tuning

Seoul, S.Korea

Jun. 2023 - Oct. 2023

### Automatic Program Repair to Reduce Static Warnings

COMPUTATIONAL INTELLIGENCE FOR SOFTWARE ENGINEERING LAB (COINSE)

- Constructed data engineering pipelines for open source data collection, false positive filtering, and augmentation
- Retained 92% of the original top-1 accuracy while removing manual error fix by developers

Daejeon, S.Korea

Sep. 2022 - Dec. 2022

### Lipstick on a Pig "Again": Analysis on Contextualised Embeddings

MACHINE LEARNING FOR NATURAL LANGUAGE PROCESSING (CS475)

- Revealed systematic gender biases in pre-trained BERT and more importantly in debiased BERT models [↗]
- Observed gender-biased word embeddings clustering together, also easily separated by a classifier

Daejeon, S.Korea

Sep. 2022 - Dec. 2022

### Zabo: Image and Poster Advertising Service

SPARCS (SYSTEM PROGRAMMERS' ASSOCIATION FOR RESEARCHING COMPUTER SYSTEMS)

- Cross-device platform for campus poster promotion (대)자보
- Created the landing page, personal profile, and poster uploading page (React) [↗]

Daejeon, S.Korea

Jun. 2019 - Dec. 2019

### Towards a Time-efficient CNN Design with Cartesian Genetic Programming

ARTIFICIAL INTELLIGENCE BASED SOFTWARE ENGINEERING (CS454)

- Proposed approaches to enhance the efficiency of neural architecture search with genetic algorithm [↗]
- Statistically presented the best use of resources for initialization, introduced strong neutral mutation

Daejeon, S.Korea

Sep. 2019 - Dec. 2019

### Digital Twin for Real-time Information Processing

COLLABORATIVE AND DISTRIBUTED SYSTEMS & NETWORK LAB (CDSNLAB)

- Automated city dataset generation with Unreal engine (CARLA)
- Enhanced real-time efficiency by twice in pedestrian trajectory tracking (Yolo)

Daejeon, S.Korea

Sep. 2019 - Dec. 2019

## Promiss: Cut-off Your Dependencies

INTRODUCTION TO HUMAN-COMPUTER INTERACTION (CS374)

- Interactive web platform to keep you away from negative habits

Daejeon, S.Korea

Mar. 2019 - Jun. 2019

## Extracurricular Activity

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### GDSC KAIST (Google Developer's Student Club)

CORE MEMBER, INTERNAL OPERATIONS

- Founding member, in charge of recruiting and solution challenge assistance

Daejeon, S.Korea

Oct. 2022 - Mar. 2023

### KATUSA

SERGEANT, ROK-US COMBINED DIVISION

- Won the second place with GPA in the U.S. Army Training Academy
- Received several Certificate of Appreciation (CoA) for outstanding performance during ROK-US joint military exercise

Pyeongtaek, S.Korea

Sep. 2020 - March. 2022

### Student Council, School of Computing, KAIST

REPRESENTATIVE OF CLASS 2017

- Director of International Co-operation
- Organized hackathon, <Coding Marathon> 2018 & 2019

Daejeon, S.Korea

Mar. 2018 - Feb. 2020

### SPARCS (Student Organization for Developing Services @ KAIST)

DEVELOPER, WHEEL (SYSTEM ADMINISTRATOR)

- Contributed as a front-end developer in Zabo, and conducted wheel seminar i.e. Linux, Docker [↗]

Daejeon, S.Korea

Sep. 2018 - June. 2020

### Immersion Camp (Madcamp): Intensive Programming and Startup

PARTICIPANT

- Five weeks of sprint projects with various applications i.e. Android Studio, Phaser.js, Unity [↗]
- Document editing through socket.io, recreation of Slither.io, Laser Chess from "The Genius"

Daejeon, S.Korea

Dec. 2018 - Jan. 2019

## Teaching

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### KEB Hana Bank

TEACHING ASSISTANT

- Trained the employees for basic software engineering capabilities, leading practice sessions and exams

Daejeon, S.Korea

Feb. 2023 - Apr. 2023

### Department of Computer Science, KAIST

TEACHING ASSISTANT

- TA in Introduction to Programming, CS101

Daejeon, S.Korea

Sep. 2019 - Aug. 2020 / Sep. 2022 - Aug. 2023

### KAIST Center for Gifted Education

SOFTWARE COURSE TUTOR

- Worked as a tutor in Python Lv.1 class

Daejeon, S.Korea

Apr. 2022 - Jul. 2023

## Certification

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**Programming** Programmers Certified Coding Professional (PCCP) Lv5

**English** TOEIC 985, TEPS 509