Bong-gu Kang

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Education

Samsung SW Academy for Youth 13th *Gumi, South Korea*
Mobile Programming Track *Jan.2025 – Present*

Jeonbuk National University *Jeonju, South Korea*
Bachelor of Computer Science and Engineering *Mar. 2019 – Feb. 2025*

- Major GPA 4.37/4.50; Cumulative GPA 4.18/4.50

Projects

Dormitory Roommate Matching Platform for Mobile
Roomie *Jan. 2023 – Feb. 2024*

- Implemented an algorithm for recommending users based on behavior similarity using content-based filtering and served as the front-end development lead
- Deployed to both iOS and Android marketplaces
- Technologies used: Dart, Flutter, Firebase

Dormitory Roommate Matching Platform for Windows
FindRoommate *Mar. 2022 – Jun. 2022*

- Led front-end and chat server development, including refactoring using the MVVM design pattern
- Technologies used: C#, WPF

Wheelchair Tennis Game Compatible with a VR Environment
WheelchairTennisVR *Mar. 2024 – Jun. 2024*

- Implemented wheelchair movement, racket-ball interaction, and considerations of motion sickness theory
- Technologies used: C#, Unity, Meta Quest 2

Routing Application Based on Streetscape Sentiment Scores, in Collaboration with LX
GaroBonneung *Mar. 2024 – Jun. 2024*

- Managed inference of the Streetscape Image Score Model (A human machine adversarial scoring framework for urban perception assessment using street view images)
- Integrated predicted scores into the routing algorithm
- Technologies used: Python, PyTorch, JavaScript, Lua

Application for Generating Images of the Animation *Black Rubber Shoes*
BlackRubberShoes *Sep. 2023 – Dec. 2023*

- Led training and inference of the Image Generative Model (U-GAT-IT)
- Architected and deployed instance servers using AWS Elastic Load Balancing, AWS Auto Scaling and AWS Elastic File System
- Technologies used: Python, PyTorch, AWS, Flask, Locust

Experience

Visual Computing Lab. *Jeonju, South Korea*

Undergraduate Internship (Advisor: Prof. Hyung-ki Kim) *Sep. 2022 – Dec. 2023*

- Level Of Detail Optimization Research *Sep. 2023 – Dec. 2023*
- P&ID Symbol Detection and Text Recognition Research *Sep. 2022 – Dec. 2023*

Publications

International Journal

- Jun-hyung Byun, **Bong-gu Kang**, Du-hwan Mun, Gwang Lee & Hyung-ki Kim (2024). Optimizing Image Format P&ID Recognition: Integrating Symbol and Text Recognition with a Single Backbone Architecture. Computers in Industry, Under Review

Domestic Journal

- Dong-won Jeong, **Bong-gu Kang**, Soon-jo Kwon, & Hyung-ki Kim (2023). Backpropagation-Based Optimization Method for Quality Improvement of Simplified Meshes. Korean Journal of Computational Design and Engineering, 28(4), 398-407, 10.7315/CDE.2023.398

Additional

ALPS (Algorithm & Programming Study Group) *Jeonju, South Korea*

Study Group *Mar. 2019 – Present*

- Vice President *Mar. 2023 – Dec. 2023*

Awards

- JBNU ICPC Competition 2024, 3rd Prize *Nov. 2024*
- JBNUPC 2024, 5th Prize *Oct. 2024*
- 7th SW Programming Competition 2024 (Jeolla-Jeju), 2nd Prize *Oct. 2024*
- AngelHack Hackseoul Hackathon 2024, Finalist *Aug. 2024*
- JBNU SW Univ. AI Online Competition 2024, 2nd Prize *Jun. 2024*
- JBNU SW Univ. Capstone Design Competition 2024, 3rd Prize *Jun. 2024*
- JBNU CSAI Software Creation Competition 2023, 3rd Prize *Dec. 2023*
- JBNU CSE Software Creation Competition 2022, 3rd Prize *Dec. 2022*

Languages: Korean (Native); English (Conversational; TOEIC Speaking IH, Jul. 2024)

Certifications: Engineer Information Processing, Sep. 2024