

Gyuna Kim

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Personal Profile

Master's student at the Graduate School of Data Science, KAIST, focusing on digital health through multimodal state modeling, real-world signal quality enhancement, and data-driven system design.

Education

Master of Science in Data Science

Korea Advanced Institute of Science and Technology (KAIST)

- Advisor: Prof. Uichin Lee, Interactive Computing Lab (ICLab)
- Courses: IoT Data Science, Advanced Statistics, Introduction to AI, Computational Psychiatry, Statistical Data Science Practice, War Game Modeling, Scientific Writing

Bachelor of Industrial Engineering

Ulsan National Institute of Science and Technology (UNIST)

• Courses: Data Mining, Time-series Analysis, Mathematical Analysis I, Statistical Computing, Statistical Quality Management, AI for Finance, Industrial Operations Management, Service Intelligence, Operations Research I, Operations Research II, Data-driven Process Management, Social Network Analysis, 3D CAD, 3D Printing

Research Projects

Enhancing Signal Quality Indices for Real-World PPG Signals

Ongoing Project

- Defined signal quality metrics tailored for unconstrained, real-world environments using datasets such as GalaxyPPG and WildPPG.
- Currently designing an automated signal quality prediction model based on real-world PPG features.

Interactive Reporting System for Digital Health Data

Ongoing Project

- Designed an interactive reporting system to support the evaluation of digital mental health interventions (DHI).
- Conducted user studies with clinicians and app developers using technology probe methodology.
- Explored usability, interpretability, and stakeholder decision-making support through Figma prototyping and feedback analysis.

Mood Detection using Speech and Sensor Data

Collaboration with LG Electronics

- Developed multimodal models integrating speech, wearable, and IoT data to detect depressive symptoms.
- Implemented CNN- and attention-based fusion architectures for enhanced feature representation.
- Explored cross-modal alignment techniques to integrate features across speech and sensor modalities.

Modeling Workload Stress in Call Center Workers

Funded by NRF Graduate Research Fellowship

• Developed a workload detection model based on multimodal data to capture subtle behavioral cues in emotionally demanding scenarios.

Educational Support and Mentoring.

Teaching Assistant, CS565/DS522 IoT Data Science

KAIST

Assisted lectures, lab sessions, and grading for a graduate-level course on IoT Data Science.

Student Supporter, Starmooc Lecture Video Production

UNIST

Created illustrations and subtitles to support online course content.

Daejeon, Korea Feb 2024 - Present

Ulsan, Korea

Feb 2020 - Feb 2024

KAIST, ICLab Mar 2025 - Present

KAIST, ICLab

Aug 2024 - Jun 2025

KAIST, ICI ab Aug 2024 - Jun 2025

KAIST, ICLab

Jan 2024 – Feb 2024, Jul 2024 – Present

Daejeon, Korea Spring 2025

Ulsan, Korea Jul 2022 – Oct 2022

Mentor, Explore@UNIST

UNIST

• Guided high school students in exploring science and engineering majors and campus life.

Mentor, Club to Club

UNIST, Ulsan Foreign Language High School

• Mentored high school students in entrepreneurship and idea development.

Internship Experience

KAIST Interactive Computing Lab		Daejeon, Korea
Research Intern		Jan 2024 – Feb 2024
DeveloPreproTechni	ped a stress detection model for call center workers by combining prosodic and linguistic features. cessed multimodal speech and text data and experimented with feature fusion approaches. cal Skills: Python, PyTorch, Hugging Face, Audio Processing.	
INTERX		Ulsan, Korea
Data Analysis Intern Researcher (Part-time: 8 months, Full-time: 4 months)		Feb 2022 – Feb 2023
DeveloBuilt arTechni	ped image-based instance segmentation and multi-label classification models for PCB defect inspection. n Al-assisted system for manufacturing recipe optimization to reduce defect rates. cal Skills: Python, PyTorch, TensorFlow, OpenCV, Scikit-learn, Linux.	
Trip Builder (Startup)		Ulsan, Korea
Data Analyst and UIUX Designer		Feb 2021 – Aug 2021
DeveloDesignTechni	ped a travel recommendation model using user clustering and public datasets. ed the initial mobile app UI and implemented a survey interface for travel tendency assessment. cal Skills: Python, Adobe XD, Illustrator.	
Achie	evements	
2024	Graduate Research Fellowship for Master's Students , Fellowship awarded by the National Research Foundation of Korea	NRF
2022	Encouragement prize, 2022 UNIST-POSTECH-KAIST Data Science Competition	KAIST
2022	2nd prize, UNIST Pre-I-Corps	UNIST

- 2022 2nd prize, UNIST Pre-I-Corps
 2021 1st prize, AI Challenger Program (AICP)
 2021 2nd prize, Gyeonggi Content Agency Agile Hackathon
 - 2020 Advance to the finals, Smart Maritime Logistics Entrepreneurship Contest

Skills

Programming Python, R; experience with machine learning, signal processing, and libraries such as PyTorch, Hugging Face, and OpenCV
 Design Figma, Adobe XD, Illustrator, Photoshop
 3D Modeling SolidWorks, Fusion 360, SketchUp

Ulsan, Korea Jan 2022

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Gyeonggi

Ulsan, Korea Apr 2021 – Oct 2021