CHAEWON KIM

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Research Interests

My research interests lie in **computer vision**, particularly in enhancing perception and recognition quality. I am also interested in applying AI across diverse domains to address real-world challenges.

Education

Kookmin University, Seoul, South Korea Mar 2021 – Feb 2026
B.S. in AI, Big Data, and Management (Minor in Computer Science) GPA: 4.05 / 4.5

- Awarded multiple merit scholarships for academic excellence and extracurricular achievement.
- Received full-tuition scholarship and research funding.

Experience

University of California, Irvine Jun 2025 – Aug 2025
Summer Research Intern, Dutt Research Group (Prof. Nikil Dutt)

- Conducted the first comprehensive empirical study on the impact of face anonymization across representative video tasks including action recognition and vision–language models (VLMs).
- Developed a scalable anonymization pipeline for reproducible evaluation across diverse benchmarks.
- Proposed Flicker Score, a novel metric for measuring the temporal stability of anonymization.

Kookmin University Dec. 2023 – Dec. 2024
Undergraduate Research Intern

- Developed a pediatric obstructive sleep apnea (OSA) detection model to streamline diagnosis.
- Proposed a channel attention–based architecture for modeling inter-channel importance in biosignals.
- Improved model accuracy from 74.51% to 80.98%.

Kookmin University Dec. 2022 – Dec. 2023
AI Server Management Assistant

- Managed the college's AI servers, ensuring a stable deep learning environment.
- Supported server operations including resource management, troubleshooting, updates, and data backup.

Publications and Manuscripts

[1] Refining Visual Artifacts in Diffusion Models via Explainable AI-based Flaw Activation Maps
Seoyeon Lee*, Gwangyeol Yu*, **Chaewon Kim***, Jonghyuk Park (* *Equal contribution*)
To be submitted (Nov. 2025).

[2] MatteViT: High-Frequency-Aware Document Shadow Removal With Shadow Matte Guidance
Chaewon Kim*, Seoyeon Lee*, Jonghyuk Park (* *Equal contribution*)
To be submitted (Nov. 2025).

[3] NTIRE 2025 Image Shadow Removal Challenge Report
Tim Seizinger et al.
In Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition Workshops (CVPRW), 2025.

Projects

Refining Visual Artifacts in Diffusion Models Feb. 2024 – Jul. 2025

- Proposed a self-refining diffusion framework to detect and refine artifacts in diffusion models.
- Improved reconstruction quality by amplifying noise in flawed regions during the forward process and by assigning higher attention to these regions during the reverse process.
- Achieved up to 27.3% improvement in FID across multiple diffusion models and diverse datasets.
- Related Manuscript: [1].

Real-World Document Shadow Removal Mar. 2025 – Jul. 2025

- Proposed MatteViT, a novel framework for document shadow removal with fine-detail preservation.
- Introduced a luminance-based shadow matte for precise spatial guidance and a lightweight High-Frequency Amplification Module (HFAM) to enhance fine structures.
- Achieved state-of-the-art performance on public benchmarks (RDD and Kligler).
- Related Manuscript: [2].

Movie Content Rating System Using Text-to-Video Retrieval Jun. 2024 – Sep. 2024

- Developed an automated movie rating classification system, reducing time and cost inefficiencies.
- Conducted video retrieval by splitting videos and utilizing a vision-language model to generate flexible and expressive text embeddings.

Industry-Academic Cooperation Project with Nasmedia Mar. 2024 – Jul. 2024

- Led an industry–academia collaboration with Nasmedia, South Korea's leading digital marketing lab.
- Developed a purchase conversion prediction model to identify key customer segments driving revenue growth.

Honors and Awards

University Scholarships 2021 – 2024

- Merit Scholarship for Academic Excellence (Spring 2024)
- Full-Tuition Scholarship for Academic Excellence and Research Support (Fall 2023)
- Merit Scholarship for Extracurricular Achievement (Spring 2023; 2022; Fall 2021)

Gold Prize, Big Data Contest – Advanced Division 2023
Ministry of Science and ICT, National Information Society Agency, South Korea

- Effective Pricing Model for the Seoul Arts Center Concert Hall.

Bronze Prize, Employment and Labor Data Utilization Competition 2023
Ministry of Employment and Labor, South Korea

- Customized System for Industrial Accident Prediction and Management.

Finalist, BDA Competition – Model Optimization Track 2023
Korea Big Data Society, CJ Cheiljedang, South Korea

- Customer Prediction Modeling for CJ THE MARKET e-commerce platform.

Teaching

Vice President, AI · Big Data Society Dec. 2022 – Dec. 2023

- Delivered bi-weekly lectures on data analysis, machine learning, and deep learning to 100+ members.
- Mentored students in bi-weekly study sessions following lectures.