Junyoung Park

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https://JYP-1317.github.io

Technical Interest

My research interests are **image processing**, **computer vision**, **machine/deep learning**, and **artificial intelligence**. I am especially focused on post-processing that **enhances images**, enhancements and restoration in camera sensor units, and I am currently interested in image enhancement(restoration) and processing using **Generative AI**. Additionally, I am currently conducting research in the field of **deepfake detection** through generative AI, and I am also interested in using **domain adaptation** technology to enable AI to produce results regardless of the domain of images. Trough my work, I want to contribute to showing people a brighter, brighter world based on new technology..

Work Experiences

03/2025-Present **Postdoctoral Researcher, BK21, Pusan National University**, Busan, South Korea
- [Deepfake] Development of a Domain Adaptation, GenAI–based Deepfake Detection System

09/2017-02/2025 **Graduate Student, Pusan National University**, Busan, South Korea
- [Image Enhancement] Development of Low-light Image Enhancement Algorithms for restoring Brightness, Color, and Detail Enhancement and Noise Reduction
- [Image Forensic] Development of Copy-move Forgery Detection Algorithms using Image Processing, Computer Vision, Machine Learning

08/2016-08/2017 **Undergraduate intern, Pusan National University**, Busan, South Korea
- Seatbelt detection through image processing in vehicle images

Project Experiences

04/2024-11/2024 **Research on Advancing Object Detection and Identification Using Artificial Intelligence**
Hyundai WIA, South Korea
- Principal Investigator (Partner Institution)
- AI-based Object Detection and Identification in Aerial videos
- Improvement of Object Detection Performance through Image Enhancement under Low-light

06/2023-02/2025 **Development of a Knowledge-based Image Enhancement Network to Adverse Visual Conditions**
National Research Foundation of Korea(NRF)
- Participating Researcher
- Development of Image Restoration and Enhancement Algorithms for Adverse Visual Environments such as Low-light and Haze
- Published and submitted seven SCI papers on Low-light Image Enhancement based on ISP

06/2018-05/2023 **Development of an Image Tampering Localization System Based on Statistical Inconsistencies**
National Research Foundation of Korea(NRF)
- Participating Researcher
- Image Authenticity Verification and Tampered Region Localization
- Published two SCI papers on Copy-move Forgery Detection based on ISP

Education

09/2017-02/2025 **Pusan National University**, Busan, South Korea
Integrated M.S. & Ph.D. in Electrical and Electronics Engineering (Advisor: Il Kyu Eom)
- Thesis: Research on Image Signal Processing for Image Enhancement and Image Forensic
- GPA: 4.35/4.5 (3.87/4.0)

03/2013-08/2017 **Pusan National University**, Busan, South Korea
B.S. in Electronics Engineering, GPA : 3.81/4.5(3.41/4.0)

Selected Publications

Detailed publication list is available on the Image Signal Processing Lab(ISPL) homepage.

International Journal Papers (* and †denote first author and corresponding author, respectively)

j6 **Jun-young Park***, Jong-Ju Jeon, Il Kyu Eom†, "Progressive Framework for Low-light Image Enhancement using Information Transfer", IEEE Transactions on Image Processing, 2025, *Under Review*

j5 **Jun-young Park***, Il Kyu Eom†, "Contrast-aware Low-light Image Enhancement Network" IEEE Access, 2025

j4 Da-Eun Lee*, **Jun-young Park**, Il Kyu Eom†, "Lightening Long Short-Term Memory for Low-light Image Enhancement", Engineering Applications of Artificial Intelligence, 2025, *Submitted*

j3 Da-Eun Lee*, **Jun-young Park**, Il Kyu Eom†, "Low-light Image Enhancement via Frequency Cross-Attention Between Wavelet Subbands", Pattern Recognition, 2025, *Submitted*

j2 Jong-Ju Jeon*, **Jun-young Park**, Il Kyu Eom†, "Low-light Image Enhancement using Gamma Correction Prior in Mixed Color Spaces", Pattern Recognition, 2024

j1 **Jun-young Park***, Cheol-Woo Park, Il Kyu Eom†, "ULBPNet : Low-light Image Enhancement using U-shaped Lightening Back-projection", Knowledge-Based Systems, 2023

Domestic Journal Papers

j2 **Jun-young Park***, Sang-In Lee, Il Kyu Eom†, "Dual Branched Copy-move Forgery Detection Network using Rotation Invariant Energy in Wavelet Domain", IEMEK The Journal of Embedded Systems and Applications, 2022

Conference Proceedings

c3 **Jun-young Park***, Tae-an Kang, and Il-Kyu Eom†, "Copy-Move Forgery Detection Using SIFT-Based Texture Descriptors", 31st Workshop on Image Processing and Image Understanding, 2019

Skills & Techniques

Modeling & Simulation	Image Signal Processing, Machine Learning for Low-light image/video enhancement - Brightness Restoration, Color Processing, Detail Enhancement, Noise Reduction Super-Resolution, and CFA Pattern Analysis for Image Processing
Programming languages	MATLAB, Python, C/C++
Machine learning	PyTorch, TensorFlow (Windows, Linux, and CUDA)
Experimental equipment	NVIDIA Jetson(SDK Manager), NVIDIA RTX 4090/3080Ti

Awards and Honors

2021	BK21 FOUR Project Scholarship, PNU EE
2020	PNU Teaching Assistant Scholarship
	BK21 Plus Scholarship
2019	PNU Research Assistant Scholarship
	Computer and Information Communication Research Institute Scholarship
2018	Human Resources Development Scholarship
	IDEC Teaching Assistant Scholarship
	PNU Research Assistant Scholarship
2017	Outstanding New Master's Student Scholarship
	BK21 Plus Scholarship
	PNU Teaching Assistant Scholarship
2015	Excellence Scholarship, PNU EE