Yeji Choi

PH.D.
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RESEARCH INTERESTS

Computer Vision, Image Generation, Representation Learning

EDUCATION

Ph.D. in Electrical & Electronic Engineering (GPA: 4.34/4.5)

Yonsei University, Seoul, Korea — *Mar. 2019 - Aug. 2025*

- Co-supervised by Prof. Kwanghoon Sohn at Yonsei University and Prof. Ig-Jae Kim at KIST
- Thesis: "Identity-Preserving Cross-Modal Face Synthesis via Domain-Invariant Embedding and Text-Guided Stylization"

M.S. in Department of Mathematics (GPA: 4.48/4.5)

Ewha Womans University, Seoul, Korea — *Mar. 2014 - Feb. 2016*

- Supervised by Prof. Jungho Yoon
- Thesis: "Image Zooming Method based on Data-adapted Moving Least H_d for Salt-and-Pepper Noise"

B.S. in Department of Mathematics (GPA: 4.05/4.5)

Ewha Womans University, Seoul, Korea — *Mar. 2010 - Feb. 2014*

WORK EXPERIENCE

Postdoctoral Researcher

KAIST AI, KAIST, Seoul, Korea — *Oct. 2025 - Present*

Student Researcher

Artificial Intelligence & Robotics Institute, KIST, Seoul, Korea — *Mar. 2019 - Aug. 2025*

Visiting Researcher

Center for Imaging Media Research, KIST, Seoul, Korea — *Mar. 2018 - Feb. 2019*

Intern Researcher

Center for Imaging Media Research, KIST, Seoul, Korea — *Mar. 2016 - Jan. 2018*

PUBLICATION

International Conference

APPLE: Attribute-Preserving Pseudo-Labeling for Diffusion-Based Face Swapping

Jiwon Kang*, **Yeji Choi***, JoungBin Lee, Wooseok Jang, Jinhyeok Choi, Taekeun Kang, Yongjae Park, Myungin Kim, Seungryong Kim
(: equal contribution)* — *Accepted*

- The IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR 2026)

Navigating Label Ambiguity for Facial Expression Recognition in the Wild

JunGyu Lee*, **Yeji Choi***, Haksub Kim, Ig-Jae Kim, Gi Pyo Nam
(: equal contribution)* — *Feb. 2025*

- Association for the Advancement of Artificial Intelligence (AAAI 2025)

Face Photo-Sketch Synthesis via Domain-Invariant Feature Embedding

Yeji Choi, Kwanghoon Sohn, and Ig-Jae Kim — *Oct. 2023*

- IEEE International Conference on Image Processing (ICIP 2023)

K-FACE: A Large-Scale KIST Face Database in Consideration with Unconstrained Environments

Yeji Choi*, Hyunjung Park*, Gi Pyo Nam, Haksub Kim, Heeseung Choi, Junghyun Cho, and Ig-Jae Kim
(: equal contribution)* — *Mar. 2021*

- arXiv preprint, https://arxiv.org/abs/2103.02211

GAN-based Anomaly Detection and Localization of Multivariate Time Series Data for Power Plant

Yeji Choi, Hyunki Lim, Heeseung Choi, and Ig-Jae Kim *Feb. 2020*

- IEEE International Conference on Big Data and Smart Computing (BigComp 2020)

International Jounal

Dual Transformers with Latent Amplification for Multivariate Time Series Anomaly Detection

Yeji Choi, Kwanghoon Sohn, and Ig-Jae Kim *Jul. 2025*

- IEEE Access

HiTS: Hierarchical Text-Guided Stylization for Face Sketch-to-Photo Synthesis

Yeji Choi, Haksub Kim, Kwanghoon Sohn, and Ig-Jae Kim *Mar. 2025*

- IEEE Access

Memetic Algorithm for Multivariate Time-Series Segmentation

Hyunki Lim, Heeseung Choi, **Yeji Choi**, and Ig-Jae Kim *Oct. 2020*

- Pattern Recognition Letters 138: 60-67

PATENT

Method for Predicting Power Generation and Remaining Useful Life per System and System for Performing The Same

Ig-Jae Kim, Heeseung Choi, **Yeji Choi**

- Korean patent, 10-2020-0173376 *Dec. 2020*
- US patent, 17/489805 *Sep. 2021*

System and Method for Determining Situation of Facility by Imaging Sensing Data of Facility

Ig-Jae Kim, Heeseung Choi, Hyunki Lim, **Yeji Choi**

- Korean patent, 10-2019-0133998 *Oct. 2019*
- US patent, 17/013859 *Sep. 2020*

EXHIBITIONS

PoliSketch: 3D Montage

Participated as a Student Researcher in Artificial Intelligence & Robotics Institute, KIST *Jan. 2020*

- At Eureka Park in Sands Expo, Consumer Electronics Show 2020, Las Vegas, USA
- Developed a facial style transfer model and demonstrated a real-time editing program

KFAS (KIST Face Aging Simulator)

Participated as an Intern Researcher in Center for Imaging Media Research, KIST *Dec. 2016*

- At the Venetian Macao, SIGGRAPH Asia 2016, Macao, China
- Presented a technical poster and supported the exhibition

PROJECTS

Development of science and technology-based crowd management technology

Funded by Korea Institute of Police Technology (KIPoT), South Korea *Apr. 2024 - Present*

- Develop forecasting algorithms for multi-modal time-series data, including CCTV video data, communication data, and traffic data

AIID: Advanced Integrated Intelligence for Optimal Identification and Inference under SpatioTemporal-View Changes

Funded by Ministry of Science and ICT, South Korea *Jul. 2018 - Dec. 2023*

- Developed algorithms for heterogeneous face recognition to match face images across multi-modalities, including image-to-sketch, visible-to-infrared, and visible-to-thermal

Abstract Image AI Database Building

Funded by National Information Society Agency, South Korea *May. 2021 - Dec. 2021*

- Developed an algorithm for face photo-to-sketch synthesis utilizing the facial parsing mask
- Released the database in public on the AI Hub (Persona-based virtual character montage data database)

Development of fault detection, analysis and diagnosis technology based on artificial intelligence for power plant

Funded by Ministry of Trade, Industry and Energy, South Korea *May. 2018 - Dec. 2021*

- Developed algorithms for anomaly detection and localization using multivariate time series
- Developed an algorithm for power/risk prediction based on uncertainty estimation

Large-Scale Face Database Construction for AI Development

Funded by National Information Society Agency, South Korea *Jun. 2016 - Dec. 2019*

- Participated in the entire process including database configuration, capturing system design, subject recruitment, data acquisition, post-processing, and annotation
- Released the database in public on Github page (K-FACE database)

Development of Tangible Social Media Technology for Smart Aging

Funded by Robot Media Flagship Research Project in KIST, South Korea *Jan. 2016 - Dec. 2017*

- Developed an AI-based smart table system that identifies the type and quantity of food, offering personalized dietary information
- Developed an algorithm for detecting food in real-time robust to occlusion by hands and lighting changes
- Implemented the UI program based on MFC programming

AWARDS

2025 **Graduate Excellence Award**, Academy–Research–Industry Collaboration Program *KIST, Korea*

2019 **Best Presentation Award**, Year-End RMI Workshop *KIST, Korea*

2017 **2nd Award**, 8th KIAS CAC Summer School on Parallel and Scientific Computing *KIAS, Korea*

2014-2016 **BK21+ Scholarship** *Ewah Womans University, Korea*

2011-2013 **Undergraduate Merit Scholarship** *Ewah Womans University, Korea*