Chang-Hyeon **An**

DEEP LEARNING ENGINEER · COMPUTER VISION & MEDICAL IMAGE PROCESSING

Intelligent Computer Vision Software Laboratory (ICVSLab.), Department of Electronic Engineering, Yeungnam University 301-1 E22, 280 Daehakro, Gyeongsan, Gyeongbuk, 38541 Korea

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"The only person you should try to be better than is the person you were yesterday."

Education

Yeungnam University   *Gyeongsan, S.Korea*
M.S. IN ELECTRONIC ENGINEERING   *Mar. 2022 - Present*

- Research Areas: Image generation, medical image processing (X-ray image), and semiconductor process predicting.
- Advisor: Prof. Hyun-Chul Choi

Yeungnam University   *Gyeongsan, S.Korea*
B.S. IN ELECTRONIC ENGINEERING   *Mar. 2016 - Feb. 2022*

- Cumulative GPA: 4.08 / 4.5 (Major: 4.21 / 4.5)

Skills

Programming	Python, PyTorch, Flask, Matlab
Tools	LaTeX, Notion, Github, WandB
Languages	Korean, English (OPIc: IH-Intermediate High)

Projects

Vertebral landmark detection on X-ray image   *M.S Student*
MEDICAL IMAGE PROCESSING   *Mar. 2022 - Present*

- Detect the corner points of the lumbar vertebrae and sacrum(S1).
- Demo

Machine Learning for Semiconductor (Collaborated with POSTECH)   *B.S Student - M.S Student*
PREDICT SEMICONDUCTOR PROCESSING RESULT   *Oct. 2021 - Feb. 2023*

- Predict the results of the semiconductor process.

Pose Transfer   *B.S Student - M.S Student*
IMAGE GENERATION (GENERATIVE ADVERSARIAL NETWORK)   *Mar. 2021 - May 2022*

- In the human domain using a dataset consisting of lab members' videos. (Mar. 2021 - July. 2021)
- In the cartoon domain and the human domain using datasets consisting of Mixamo and Fashion Dataset. (Nov. 2021 - May. 2022)
- Project Page

Motorcycle motion-based automatic illegal driving detecting system (Graduation Project)   *B.S Student*
OBJECT DETECTION & ACTION RECOGNITION   *May 2021 - Nov. 2021*

- Determine whether a detected motorcycle is illegally driven at a crosswalk.

Take Off Your Mask!   *B.S Student*
IMAGE INPAINTING & IMAGE GENERATION (GENERATIVE ADVERSARIAL NETWORK)   *Jan. 2021 - Apr. 2021*

- Hire people for constructing a server and making an application, and develop an application to remove masks from a mask-wearing image.
- Demo

Awards

Naver Paper Award   *M.S Student*
ANNUAL SUMMER CONFERENCE OF THE INSTITUTE OF ELECTRONICS AND INFORMATION ENGINEERS (IEIE)   *June 2022*

- Cartoon Pose Transfer
- Image, Paper

Graduation Project 1st Prize   *B.S Student*

Electronic Engineering Department of Yeungnam University   *Dec. 2021*

- Automatic Motorcycle Illegal Driving Detection System
- Image

Patents

Apparatus and method for pose transformation   *S.Korea*

Patent Application   *Aug. 2022*

- Cartoon Pose Transfer.

Method Of Detecting ILLEGAL DRIVING AND APPARATUS THEREOF   *S.Korea*

Patent Application   *Dec. 2021*

- Determine whether a detected motorcycle is illegally driven at a crosswalk.
- Graduation Project

Publications

International

Part Affinity Fields and CoordConv for Detecting Landmarks of Lumbar Vertebrae and Sacrum in X-ray Images

Chang-Hyeon An, Jeong-Sik Lee, Jun-Soo Jang, and Hyun-Chul Choi.   *Nov. 2022*

- MDPI Sensors, vol. 22 (22), 8628. DOI: 10.3390/s22228628.

A Review of Multi-Modal Learning from the Text-Guided Visual Processing Viewpoint

Ubaid Ullah, Jeong-Sik Lee, Chang-Hyeon An, Hyeonjin Lee, Su-Yeong Park, Rock-Hyun Baek and Hyun-Chul   *Sep. 2022*
Choi.

- MDPI sensors, vol. 22 (18), 6816. DOI: 10.3390/s22186816.

Accurate and Reliable Parameter Optimization of Regressional Neural Network for Semiconductor Technology Development

                                                                                       Feb. 2023

- Advanced intelligent systems. Under Revision.

Cartoon Pose Transfer

Chang-Hyeon An and Hyun-Chul Choi.   *Feb. 2023*

- Neurocomputing. Under Revision.

Domestic

Cartoon Pose Transfer   *Jeju, S.Korea*

Chang-Hyeon An and Hyun-Chul Choi.   *June 2022*

- Annual Summer Conference of The Institute of Electronics and Information Engineers (IEIE)-link

Pose Transfer using AdaIN and Generative Adversarial Network   *Jeju, S.Korea*

Chang-Hyeon An, Jeong-Sik Lee, Su-Yeong Park, and Hyun-Chul Choi.   *July 2021*

- Annual Summer Conference of The Institute of Electronics and Information Engineers (IEIE)-link

Experience

July 2020 - Feb. 2022	**Research Intern**, Intelligent Computer Vision Software Laboratory(ICVSLab)	*Yeungnam University*
July 2022	**Attend**, IEEE WORLD CONGRESS ON COMPUTATIONAL INTELLIGENCE(WCCI)	*Padua, Italy*
Oct. 2022	**Attend**, European Conference on Computer Vision(ECCV)	*Tel Aviv, Israel*