SEONUK KIM

Undergraduate Student, Department of Industrial Engineering at UNIST
50, UNIST-gil, Eonyang-eup, Ulju-gun, Ulsan, Republic of Korea 44919
+82-10-5795-5501 | d02reams@unist.ac.kr | 5eonukkim.github.io

EDUCATION

2020	**Ulsan National Institute of Science and Technology (UNIST)**	Ulsan, Korea
–Now	Undergraduate Student, Major in *Industrial Engineering* and *Design*	

2019	**Baron Academy of Manga and Webtoon**	Busan, Korea
–2020	Academy that professional webtoonists teach to create manga, webtoon, and illustration	

2015	**Busan Science High School**	Busan, Korea
–2019	High school for the gifted in science and mathematics	

PUBLICATIONS

CONFERENCES

2023 **Designing Interfaces for Text-To-Image Prompt Engineering with Stable Diffusion Models: A Human-AI Interaction Approach**
Seonuk Kim, Taeyoung Ko, Yousang Kwon, Kyungho Lee⋆
International Association of Societies of Design Research (IASDR)
Submitted Full Paper on Apr. 16, 2023

#taggenerator: How an Online Community Designs an Interface for Text Prompt Inputs Using a NovelAI's Diffusion Model [Korean]
Seonuk Kim, Yousang Kwon, Kyungho Lee⋆
*HCI KOREA (**HCIK**)*
Oral Presentations, Conference Proceeding

2022 **A Study on the Use of AI as Creative Support Tool for Line Drawing in Manga Production** [Korean]
Seonuk Kim, Kyungho Lee⋆
*Korea Society of Design Science (**KSDS**)* 🏆 ***Student Paper Honorable Mention Award** 3rd prize*
Oral Presentations, Conference Proceeding

BOOKS

2021 **The Moment when the Star is Born** [Korean]
Chulho Jang, Hyangseop Shin, Jinyi Jeon, Seokyoung Kim, Seonuk Kim, Soobin Lee, Sooyoung Jang, Soyoung Jeong, Yuri. Published by egowriting
Short stories written by different people, including the disabled. My chapter's title is "Swings and Blossoms"

RESEARCH EXPERIENCES

Expressive Computing Lab, UNIST (Advisor: Prof. Kyungho Lee)   Ulsan, Korea
Research Intern   DEC. 2021 - PRESENT

- ***Suggest User Interface Design Guideline for Image Generative AI Service.*** Focusing on main posts in arcalive AI art channel, which was activated by rise of NovelAI, study aimed at fine-tuning model based on Stable Diffusion, studying user experience such as trial and error in forum, and defining themes of user behavior via thematic analysis. **Paper was accepted to HCIK'23, and follow-up paper was submitted to CVFAD'23.**

- ***Study on Improving AI-based Manga Production Support Tool.*** Built pipeline with SOTA models to take analog or digital rough sketches as input, pencil-style line drawing and automatic shading as output. **Accpeted paper won 3rd prize in undergraduate student research competition at KSDS'22 conference.**

- *Industry-academia Joint Research with LG Household & Health Care.* Preprocessed segmented images. Configured image style transfer pipeline. Created conda environment and tried to make Docker container & image. Produced and handed over set-up manual.

- *Industry-academia Joint Research with bbbKorea.* Transcribe conversation voice files consist of 20 languages to text files using AWS S3 and transcribe service.

Service Engineering & Knowledge Discovery Lab, UNIST (Advisor: Prof. Chiehyeon Lim)   Ulsan, Korea
Artifical Intelligence Graduate School Creative Autonomous Research Program   Nov. 2020 − Dec. 2021

- *Develop Behavioral Data-based AI Model for Cat Arthritis Predictive.* Planned and written research proposal was selected after school screening. Designed control experiment and fabricated measurement device. Preprocessed sensor-based cat behavioral weekly time-series data such as position, acceleration, and angular velocity.

SKILLS

Data Science	NumPy, Pandas, Matplotlib, Seaborn *(Main Language: Python)*
Machine Learning	TensorFlow, Keras, PyTorch, PyCaret
Design Tools	Clip Studio, Photoshop, Illustrator, InDesign, Premiere Pro, SolidWorks, Ansys
Stable Diffusion	Automatic1111 WebUI and extension: DAAM, ControlNet, etc.

HONORS AND AWARDS

2023	**Gold 2nd / 43 (2,000,000 won as award), KAIST-POSTECH-UNIST Data Science Competition**, MakinaRocks
2022	**Student Paper Honorable Mention Award 3rd prize**, KSDS
	Excellence Prize, IEEE Quiz Contest KOREA, KITIS
	Silver 4th / 38 (1,000,000 won as award), UNIST-POSTECH-KAIST Data Science Competition, UNIST
2021	Gold Prize, Lee Soo Hyun 20th Anniversary Book Review Contest, Consulate-General of Japan in Busan
2020	Excellence Prize (3,000,000 won as award), Campus Patent Universiade, Samsung Electronics

---

EXTRACURRICULAR ACTIVITIES

HeXA Hacker's eXciting Academy, UNIST Programming and Security Club   Sep. 2020 – Present
President 2022 – Present & *Executive Member* 2021 – Present

- Project manage, plan, and design for renewal of HeXA homepage. `[front][back][design][plan]`
- **4th place out of 38 teams** at **1st UNIST-POSTECH-KAIST Data Science Competition** as Leader of team JORDY. Mainly used PyCaret, AutoML library.
- **2nd place out of 43 teams** at **2nd KAIST-POSTECH-UNIST Data Science Competition** as Leader of team The quick brown fox jumps over the lazy dog Leader. Mainly used Convolution Neural Network based on TensorFlow, Keras, and PyTorch.

brAIns brew AI neo scientist, UNIST Artificial Intelligence Society   Jan. 2021 – Present
Co-President 2022 – Present

- Posted essay about style transfer at brAIns blog.
- Studied data preprocess, prediction, and visualization with Titanic Kaggle Competition
- Read paper about generative adversarial network (GAN) and implement it using MNIST dataset

Consulate-General of Japan in Busan   Aug. 2022 – Feb. 2023
Supporters & JENESYS

- Undergraduate Student Ambassador for Promotion of Korea-Japan Relations; Produce card news, vlog, etc.
- Visited Japan as **JENESYS 2022 Japan-East Asia Network of Exchange for Students and Youths** which invited by Consulate-General of Japan in Jan. 13 – 19, 2023. My review was published on the official website as **best essay**.

REFERENCES

Kyungho Lee
Assistant Professor
Department of Design
Ulsan National Institute of Science and Technology
📞 +82 52-217-3034
✉ kyungho@unist.ac.kr

Chiehyeon Lim
Associate Professor
Department of Industrial Engineering
Ulsan National Institute of Science and Technology
📞 +82 52-217-3112
✉ chlim@unist.ac.kr