JUEUN MUN

Department of Computer Science and Engineering, Kyunghee University

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CURRENT INTEREST

Self-supervised learning, 3D reconstruction, Depth estimation, Reinforcement learning

EDUCATION

Kyunghee Universitiy **Yongin-si, South Korea**
Undergraduate Student - Full-tuition Merit-based Scholarships **03, 2019 – 08, 2023 (EXPECTED)**
Bachelor of Science in Computer Science and Engineering
Overall GPA : 3.75/4.3 (4.04/4.5) Major GPA : 3.783/4.3 Upper GPA : 4.257/4.3

RESEARCH EXPERIENCE

Perception and Computer Vision Laboratory, Kyunghee University **Yongin-si, South Korea**
Advisor: Prof. Seungkyu Lee **09, 2021 – PRESENT**
Research title: Neural Radiance Fields for different color variations photo collection

- **NeRF still has a limitation: it cannot render objects or scenes smoothly when the training scenes have large variations in color.**
- **This project aims to interpolate various photos (that have different color variations) smoothly without affecting 3D geometry**

Purdue Visiting Scholar, Purdue University - *Full-funded by Korean government* **Indiana, United State**
Advisor: Prof. Eric Matson, Prof. Tony Smith **04, 2022 – 08, 2022**
Research title: Outdoor visual SLAM and Path Planning for Mobile-Robot

- **Mobile robots require a customized method to cover the variety of their trajectory, especially outdoors**
- **For SLAM, incorporating a GPS data to obtain more meaningful keyframes and enhanced the accuracy of the co-visibility graph**
- **For Path Planning, creating a new cost function which is focusing on the distance of the path and the stability of the path**

Machine Learning And Visual Computing Laboratory, Kyunghee University **Yongin-si, South Korea**
Advisor: Prof. Sungho Bae **07, 2021 – 08, 2021**
Research title: GaussianMix: Rethinking Receptive Field for Data Augmentation

- **To existing deep-learning models, centered-positioned pixels would be more influence on the output**
- **Based on this, proposing a stochastic sampling for mixing regions using a Gaussian distribution**

PUBLICATIONS

1. J. Mun, Y. Lee, A. F. M. S. Uddin, and S.-H. Bae, "GaussianMix: Rethinking Receptive Field for Data Augmentation.", *Submitted in IEEE Access (Preprinted)*
2. Heo, S., Mun, J., Choi, J., Park, J., & Matson, E. T. (2022, December). Outdoor visual SLAM and Path Planning for Mobile-Robot. In 2022 Sixth IEEE International Conference on Robotic Computing (IRC) (pp. 296-301). IEEE.
3.Jueun Mun, Gangyeon Go, Heechan Yoon, Yewon Han, Seungkyu Lee.(2022).Virtual Puppet Control using 2D video Hand Tracking and Facial Emotion Recognition. Proceedings of the Korean Information Science Society Conference,(),1789-1791.

HONORS AND AWARDS

2022 Representative student in Department of Computer Science and Engineering FALL 2022
2022 Kyunghee University SW festival second prize (Project presentation competition) FALL 2022
2022 Kyunghee University Hackathon excellence award FALL 2022
2021 Kyunghee University Hackathon excellence award FALL 2021
SW Excellence Experience Scholarship, Kyunghee University FALL 2020 - FALL 2021, FALL 2022
Volunteer Scholarship, Kyunghee University FALL 2019 - FALL 2021
Full-tuition Merit-based Scholarships, Kyunghee University 2019

UNDERGRADUATE TEACHING ASSISTANT

Data Structures 2021

EXTRA CURRICULAR ACTIVITIES

Computer Science Academic Club, "T.G.wing" 03, 2019 - PRESENT
- **Studying computer science and engineering**
- **Having a weekly Deep learning study meeting and giving a presentation**

2022 Korea SW Festival 12, 2022
- **Participated as a school representative**
- **Presented the project, "Controlling the 3D character with hand tracking and emotion recognition using RGB camera", in front of 44 universities and ministers in Korea.**

Software Volunteer Club 03, 2019 - 12, 2021
- **Teaching coding to elementary school students to provide quality education**

ADDITIONAL RELEVANT PROJECT

Gallery application project
- **Coursework project of the Data Structure class**
- **Making a gallery that can store photos or videos with related people, dates, locations, and Liked information**

Virtual puppet controlling by Hand Tracking, Gesture Recognition, and Emotion Recognition

• **Controlling 3D virtual puppet by the user's hand skeleton, gesture and emotion using the single camera**
• **Accepted in KSC 2022 conference**

Fire detection using Deep leaning
• **Fine-tuning the model to improve the accuracy**
• **Using Quantization method to compress the model**

LEADERSHIP ACTIVITIES

President of Software Volunteer Club **2021 - 02, 2022**
Vice president of Club 'T.G.wing', a Computer Academic Club **2020**

TECHNICAL SKILLS

Advanced: Python, C++, C, Git, Pytorch, TensorFlow, OpenCV
Moderate: C#, Matlab, LaTeX, Unity, ROS, OpenGL
Novice: Java, Hadoop

LANGUAGE

Fluent in English, Native in Korean