Jieun Ko

Location: Seoul, South Korea
Phone: +82-10-5917-7253
https://github.com/jieunko
Email: developing.jieun@gmail.com

PROFESSIONAL SUMMARY

Detail-oriented software developer with 3+ years of experience in computer vision and rendering.
Thrive on solving complex problems using cutting-edge technology with passion for robotics and 3D reconstruction.
Committed to collaborative, innovative R&D projects in autonomous systems for shaping the future of technology.

RESEARCH EXPERIENCE

Fake Eyes Co., Ltd. **Seoul, Korea**
AI Engineer (full-time) *Apr. 2024 – Jul. 2024*

- Project: "Development of Pose Estimation Algorithm"
- Implemented a camera calibration method using 3D targets, successfully reduced reprojection error below a pixel.
- Relevant Skills: Python, PyTorch

Institute of Vehicle Engineering **Seoul, Korea**
Robotics Engineer (full-time) *Oct. 2023 – Jan. 2024*

- Designed and configured an optimized environment for autonomous navigation.
- Developed an autonomous driving application using the ROS2 navigation package.
- Relevant Skills: C++, ROS2 Iron

Korea Institute of Science and Technology (KIST) **Seoul, Korea**
Research Intern (full-time), Intelligence and Interaction Research Center *Mar. 2021 – Dec. 2022*

- Project: "Living Intelligence Space for Human-Robot Interaction" (Advisor: Ph.D. Jun Sik Kim)
- Implemented a system to enhance robots' understanding of and interaction with their environments and people.
- Optimized a 3D reconstruction algorithm using CUDA, accelerating processing speed.
- Researched and evaluated potential programming solutions, and documented processes and fixes.
- Relevant Skills: C++, CUDA, ROS melodic

Computer Graphics Lab, Sungkyunkwan Univ. **Suwon, Korea**
Research Student (Advisor: Prof. Sungkil Lee) *Sep. 2018 – Feb. 2021*

- Project "Imperfect Rendering for Deep Learning" (Advisor: Prof. Sungkil Lee)
- Researched and implemented post-processing algorithms used in commercial cameras.
- Proposed and implemented a novel stochastic sampling algorithm that improved the randomness of Jittered sampling while achieving better computational speed relative to Poisson disk sampling.
- Relevant Skills: C++, OpenGL

DMBH Co., Ltd. **Incheon, Korea**
C++ Programmer (full-time) *Sep. 2016 – Oct. 2017*

- Participated in the design and development of a control solution for a robot.
- Relevant Skill: C++

EDUCATION

Sungkyunkwan University (SKKU) **Suwon, Korea**

M.S., Electrical and Computer Engineering *Sep. 2018 – Feb. 2021*

- Research Focus: Real-Time Rendering, Stochastic Sampling (Advisor: Prof. Sungkil Lee)
- Thesis: Efficient and Effective Stratification-based Technique for Stochastic Sampling

Chung-ang University (CAU) **Seoul, Korea**

B.S., Computer Science and Engineering *Mar. 2006 – Dec. 2012*

PUBLICATION / PRESENTATIONS

Ko, J.E. & Lee, S.K. "Improved Stratified Sampling Using Dart Throwing," *Journal of the Korean Institute of Information Scientists and Engineers,* Vol.48, No. 5, pp. 527-532. May 2021.

Ko, J.E. & Lee, S.K. "Improved Stratified Sampling Using Dart Throwing," Korea Computer Congress 2020.

Ko, J.E., Jung, H.J., & Lee, S.K. "GPU-based Parallel Progressive Jittered Sampling," Korea Software Congress 2018.

HONORS & AWARDS

Best Paper Award, National, "Improved Stratified Sampling Using Dart Throwing," Korea Computer Congress 2020.

TEACHING

System Programming Lab, Sungkyunkwan University **Suwon, Korea**

Teaching Assistant *Sep. 2018 – Feb. 2021*

- Covered basic Unix system, commands, shell script language and utilities.
- Ran laboratories of 20 students, had office hours, answered questions in online and marked assignments.

CERTIFICATES

Fundamentals of Accelerated Computing with CUDA C/C++	Nvidia Deep Learning Institute, *Jul. 2024*
Fundamentals of Accelerated Computing with CUDA Python	Nvidia Deep Learning Institute, *Aug. 2024*
Fundamentals of Deep Learning	Nvidia Deep Learning Institute, *Aug. 2024*
Accelerating CUDA C++ Applications with Multiple GPUs	Nvidia Deep Learning Institute *Aug. 2024*

PROFICIENCY IN SKILLS

Programming: C++, Python
Libraries: OpenGL, CUDA, ROS, PyTorch

COMMUNITY ACTIVITIES

Graphic Designer, Wheely-X-Game-Lab in Kakao Impact *Sep. 2024 – Mar. 2025*

- Volunteer on a project to develop a game and test/analyze its effectiveness on Wheely-X, a platform designed to enhance overall fitness sustainability and enhancement for wheelchair users.

Member, Nerf and 3D Gaussian Splatting Study Group *May 2024 – Present*

- Participate in a group that reviews and studies academic papers on emerging technologies.