



Taeyoung Kim

ROBOTICS · PERCEPTION ENGINEER

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"Nothing ventured, nothing gained."

Summary

This is Taeyoung Kim, who wants to become an autonomous driving or robotics Perception engineer. My research interests are Computer Vision and SLAM. I like to take on challenging tasks and I like to grow up with my colleagues around me. That's why I record and share what I did on my Github or Technical Blog. I'm also interested in contributing open-source projects.

Research Interests

Computer Vision Object Detection, Segmentation, Depth Estimation, 3D reconstruction
SLAM Visual SLAM, Visual Odometry, Visual Inertial SLAM

Education

Yonsei University @CILAB

Seoul, S.Korea

M.S. IN VEHICLE CONVERGENCE ENGINEERING (ADVISOR : PROF. EUNTAI KIM)

Mar. 2022 - Feb. 2024 (Expected)

- Join the mobile robot team
- Research on visual inertial slam and a study that combines visual slam with deep learning

Kwang Woon University

Seoul, S.Korea

B.S. IN SCHOOL OF ROBOTICS

Mar. 2016 - Feb. 2022

- **Total GPA** : 4.10 / 4.50, **Major GPA** : 4.41 / 4.50
- **Club**: BARAM (Robotics Academic Group) - [2020 Staff] , DAISY (English Conversation Club) - [2019 Spring President]

Work Experience

Computer Vision Lab @Korea Univ

Seoul, S.Korea

UNDERGRADUATE LAB INTERN (ADVISOR : PROF. SANGPIL KIM)

Mar. 2021 - Jul. 2021

- Research on Computer Vision using an Event camera
- Event data processing using ESIM

KIST(Korea Institute of Science and Technology)

Seoul, S.Korea

STUDENT INTERN (ADVISOR : DR. KANGGEON KIM)

Sep. 2020 - Feb. 2021

- Research on Monocular Depth Estimation
- Participated in KIST disinfect robot (AI Disinfection Robot) project - [Video]

Image Process System Lab @Kwang Woon Univ

Seoul, S.Korea

UNDERGRADUATE LAB INTERN (ADVISOR : PROF. DONGGYU SIM)

May. 2020 - Aug. 2020

- Research on Image Processing based on Deep learning
- Participated in seminars related to Deep Learning and Image Processing

Publication

INTERNATIONAL JOURNAL

- 2021.11 **Special Issues : Digital Healthcare in Pandemics**, Heeju Hong, Wonkook Shin, Jieun Oh, Sunwoo Lee, Taeyoung Kim, Woosub Lee, Jongsuk Choi, Seungbeum Suh and Kanggeon Kim,
"Standard for the Quantification of a Sterilization Effect Using an Artificial Intelligence Disinfection Robot" -
[Paper], [Link]

Sensors

INTERNATIONAL CONFERENCE

- 2021.7 **UR2021 (Work in progress)**, Taeyoung Kim, Omer Faruk Ince, JongBeom Baek, Jun-Sik Kim, KangGeon Kim,
"Dense Monocular SLAM applied Depth Estimation" - [Paper], [Video]

KROS

DOMESTIC CONFERENCE

- 2021.5 **KROS2021**, TaeHwan Kim, Taeyoung Kim, GiJae Lee, KangGeon Kim, *KROS*
“Recognition of disinfection targets and generation of semantic map for disinfection robot” - **[Paper]**
- 2020.9 **KSPC2020**, Naseong Kwon, Taeyoung Kim, Subin Kim, Joohyung Byeon, Jongsuk Lee, Donggyu Sim, *IEIE*
“Luma Mapping with Chroma Scaling based on CNN feature map for VVC subjective quality improvement” - **[Paper]**

Honors & Awards

AWARDS

- 2020.11 **Dean's List**, for Academic Excellence *KwangWoon Univ.*
- 2020.9 **5th Place on B-track**, Korea Health Datathon 2020 *NAVER CLOUD PLATFORM*
- 2019.10 **Dean's List**, for Academic Excellence *KwangWoon Univ.*

HONORS

- 2021-2 **National Science and Engineering Undergraduate Scholarship**, *Korea Student Aid Foundation*
- 2021-1 for the students, those who have been recommended by the university (Full tuition Scholarship)
- 2020-2 **National Science and Engineering Undergraduate Scholarship**, *Korea Student Aid Foundation*
- 2020-1 for the students, those who have been recommended by the university (Full tuition Scholarship)
- 2019-2 **Full tuition Scholarship**, for Top seat last semester *KwangWoon Univ.*

Skills

- Programming** C++ / C, Python, JAVA, Matlab
- Framework** Pytorch, Tensorflow, Keras
- DevOps** Git, Docker, ROS2 / ROS
- Languages** Korean, English

Extracurricular Activity

Technical Blogs

WRITERS

- You can easily access the blog using **[this link]**.
- Writing some posts about lecture summary, paper review, some tips for developments.
- To share what I have studied with others and to remember it longer.

Github blog

May. 2020 - Present

2021 Open Source Contribution Academy

MENTEE

- I am in the process of translating a Pytorch tutorial into Korean that I want to contribute to the spread of PyTorch.
- Using Github, I developed the ability to collaborate and contribute to open source.
- The open source repository I've contributed can be found **[here]**.

Ministry of Science and ICT

Aug. 2021 - Nov. 2021

CLOVA AI RUSH 2021

PARTICIPANT

- Only 150 students are allowed to participate in this project.
- I developed my own deep learning model related to multi-label classification.
- I ranked 30th on Project 1-3.

NAVER AI Lab, NAVER CLOVA

May. 2021 - Jun. 2021

2021 Spring Capstone Design

PROJECT

- I made a wireless charging electric vehicle charging robot.
- I designed the control input algorithm, trained deep learning model, and developed the ROS package.
- The source code related to this project is on my **[Github repository]**.

KwangWoon Univ.

Mar. 2021 - Jun. 2021

Monocular Depth Estimation with ORB-SLAM2

BARAM (Robotics Academic Group)

PERSONAL TOY PROJECT

Sep. 2020 - Nov. 2020

- I was curious about the performance of the recent depth estimation model.
- I used **'Monocular Depth Estimation with Transfer Learning pretrained MobileNetV2'** model and applied to ORB-SLAM2 also compared with ORB-SLAM2(Monocular mode), ORB-SLAM2(RGB-D mode)
- The source code related to this toy project is on my **[Github repository]**.

Runner Alarm System based on Deep Learning

BARAM (Robotics Academic Group)

PERSONAL TOY PROJECT

Apr. 2020 - Jun. 2020

- I wanted to distinguish between walking children and running children with an object detection model.
- When children are running for an amount of time, a beep sounds.
- The source code related to this toy project is on my **[Github repository]**.