

Jun-su Kim

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Education

Mar. 2016 ~ Feb. 2022	Pukyong National University, Busan, Korea - B.S. in Information and Communications Engineering - GPA : 4.35 / 4.5 [Summa cum laude]
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Skills

Programming languages: Python, C, C++
Deep learning Frameworks: **TensorFlow 2.0, Pytorch**
Deep learning libraries: **OpenCV**
Embedded boards: Jetson Nano, Jetson Xavier, Raspberry Pi, Arduino
Others: RoboFlow, Docker, Linux, winscp

Undergraduate Projects

Jun. 2020 ~ Jun. 2021 [Capstone Design]	“Deep Learning-Based Self-Driving Vehicular Networks” - Learning strategy design for collision avoidance and road following - Implementation of AI-enabled vehicles and servers using Jetson Nano Skills: Python, Pytorch, RTSP, OpenCV, Jetson Nano
Sep. 2020 ~ Dec. 2020 [Experiments on Microprocessor]	“Smart Alarm By Using Lights and Sound” - Implementation of smart alarms using CDS sensor and sound module - Algorithm design for the control of buzzer frequency and signal interrupt Skills: C, C++, ATmega-128
Jan. 2021 ~ Mar. 2021 [PKNU LINK+]	“Deep Learning Approaches for Swarm Autonomous Vehicle Systems” - Real-time vehicle recognition through YOLOv5m - End system optimization for the management of swarm vehicles Skills: YOLOv5, Python, Pytorch, Jetson Nano
Apr. 2021 ~ Dec. 2021 [X-corps]	“AI-Assisted Safety Systems Using Industrial Internet-of-Things (IIoT)” - Industrial safety systems integrating autonomous control and profiling - Multi-task learning approaches for AI-enabled system designs

	<ul style="list-style-type: none"> - Testbed implementation using Jetson Nano and Jetson Xavier Skills: YOLOv5x, YOLOv5m, Python, Pytorch, Jetson Nano, Jetson Xavier
Jun. 2021 ~ Sep. 2021 [PKNU, Han. Contest]	“Autonomous Driving Techniques for Industrial Safety” <ul style="list-style-type: none"> - Tensor-RT-based low-complexity AI implementation in Jetson Nano - Robust control algorithm design for autonomous vehicles Skills: YOLOv5x, YOLOv5m, Python, Pytorch, Jetson Nano, Jetson Xavier
Sep. 2021 ~ Dec. 2021 [Collaboration with Start-up (UroboAI)]	“Identification Systems of Dog Nose-Print Using Siamese Network” <ul style="list-style-type: none"> - Project Assistant - Optimization of learning, network structures, and data preprocessing Skills: Linux, TensorFlow, WINSCP, Docker

Activities

Oct. 2019 ~ Jun. 2021	Student researcher <ul style="list-style-type: none"> - AI Communication Network Lab - Advisor: Prof. Hoon Lee
Jul. 2020 ~ Sep. 2020	“AR, VR, MR. difference analysis announcement” <ul style="list-style-type: none"> - Researches on AR/VR/MR - Mentoring to PKNU&PNU students through news document
Sep. 2020 ~ Dec. 2020	“Logistics Mobile System to prevent accidents in warehouse” <ul style="list-style-type: none"> - Studies of AI, CNN, and object-detection mechanisms - Development of carrier-bot control algorithms
Jun. 2021 ~ Dec. 2021	PKNU Running Circle Study Club “Deep Challengers” <ul style="list-style-type: none"> - Club Leader - Regular AI paper seminars and technical surveys - Presentations at 2021 Fall Conference of IEIE - Presentations at 2021 Summer Conference of KICS - Participating in various industrial projects - Excellence Prize, Student Study Club Performance presentation
Jun. 2021 ~ Dec. 2021	PKNU Dream Challengers succeeded <ul style="list-style-type: none"> - Self-leadership program - Final Challenge Ranking : 6 / 40 - A program that designs and achieves my goals. (My goals: Best Undergraduate Paper Award, Working at a start-up)
Feb. 2022 ~	NVIDIA DLI Ambassador <ul style="list-style-type: none"> - Jetson AI Ambassador - Official certification of NVIDIA - Deep Learning Instructor

Papers

- H. Kim, **J. Kim**, I. Lee, and H. Lee “AI-Enabled Low-Complexity Autonomous Driving Using Tensor RT”, in *Proc. 2021 Winter Conference of Korea Information and Communications Society (KICS)*, Feb. 2021
- **J. Kim**, H. Kim, I. Lee, H. Lee “AI Edge Server Design for Swarm Vehicular Network”, in *Proc. 2021 ICT College Paper Contest of Institute of Embedded Engineering of Korea (IE-MEK)*, May. 2021 (Best Undergraduate Paper Award)
- H. Kim, **J. Kim**, I. Lee, and H. Lee “Deep Learning-Based Self-Driving Systems for Swarm Vehicle”, in *Proc. 2021 Summer Conference of Korea Information and Communications Society (KICS)*, Jun. 2021 (Best Undergraduate Paper Award)
- I. Lee, **J. Kim**, H. Lee, Y. Kim, D. Lee, H. Lee “Multi-Task Learning Approach to Autonomous Driving Techniques”, in *Proc. 2021 Fall Conference of Institute of Electronics and Information Engineers (IEIE)*, Nov, 2021 (Best Undergraduate Paper Award)

Certifications

- Computer Literacy Certification Level-1
(Host: The Ministry of Employment and Labor)
- Engineer Information Processing
(Host: Human Resources Development Service of Korea)
- Network Manager level-2
(Host: ICQA)
- Fundamentals of Data Science (Technical)
(Host: Univ. Southampton)
- NVIDIA DLI Certificate – Getting started with AI on Jetson Nano
(Host: NVIDIA)

Awards

- 2nd Prize (KIBO), Busan AI Idea Contest Exhibition [2020]
(Host: NILE, Busan)
- Best Undergraduate Paper Award (2021)
(Host: IEMEK, The Institute of Embedded Engineering of Korea)
- Best Undergraduate Paper Award (2021)
(Host: KICS, Korea’s information and communications technology)
- Best Undergraduate Paper Award (2021)
(Host: IEIE, The Institute of Electronics and Information Engineers)
- Excellence Award, Presentation Engineering in literature
(Host: Pusan National Univ._ABEEK)

- 1st Prize, PKNV Capstone Design (2021)
(Host: Pukyong Nation Univ. engineering)
- Excellence Award, LINK+ Competitive Contest (2021)
(Host: Pukyong Nation Univ. LINK+)
- Excellence Award, Han. Competitive Contest (2021)
(Host: Pukyong Nation Univ. Research & Business Development Foundation)
- Excellence Award, PKNV Study Club Performance [2022]
(Host: Pukyong Nation Univ.)

Honors

- Academic Excellent Scholarship
(2016-1, 2016-2, 2017-1, 2017-2, 2020-1, 2020-2, 2021-1)
- PKNV, Development Fund Scholarship
(2019-2)
- PKNV, New Road Scholarship
(2020-1)

Additional Information

- **Jetson AI Project Manual Making**
 - Link : <https://orange-squash-b3c.notion.site/Jetbot-Manual-783ed3ab91a64e2c8d6c568ccc7d9cc3>
 - Made learning materials based on my experiences
 - Introduction of Jetson Nano, Xavier usage
 - Improved classification and regression performance on Jetson Nano
- Blog * Notion
 - blog Link : <https://blog.naver.com/jjunsss>
 - Reviewed Summary Pytorch Framework Tech.
 - notion Link : <https://billyw-background-021.notion.site/papers-629e5539e489491bad3fc2f7b8719b79>
 - Reviewed other papers
- Produced Video of Arduino Bot
 - link : <https://youtu.be/rfReWHhpyd0>
 - produced a learning video about designing Arduino Bot
 - Used for PNU Engineering Promotion materials
(Host : PNU, Engineering Festival)