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]

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

Work Experience

Apr. 2022 ~ Jul. 2022 — Intern, ㈜ KYEONGSEONG Technology (*Busan, Korea*)
- AI Assistant
- AI Study Tutor

Aug. 2022 ~ — Researcher, UVLL Lab. UNIST (*Ulsan National Institute of Science Technology*)

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 — "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

Microprocessor] 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
- 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"
- 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"
- Project Assistant
- Optimization of learning, network structures, and data preprocessing
Skills: Linux, TensorFlow, WINSCP, Docker

Activities

Oct. 2019 ~ Jun. 2021
Student researcher
- AI Communication Network Lab
- Advisor: Prof. Hoon Lee

Jul. 2020 ~ Sep. 2020
"AR, VR, MR. difference analysis announcement"
- 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"
- 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"
- 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
- 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
- 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 (IEMEK)*, 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, PKNU 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, PKNU 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)
- PKNU, Development Fund Scholarship
  (2019-2)
- PKNU, New Road Scholarship
  (2020-1)

Additional Information

- Jetson AI Project Manual Making
  - Link
  - Made learning materials based on my experiences
  - Introduction of Jetson Nano, Xavier usage
  - Improved classification and regression performance on Jetson Nano

- Produced Video of Arduino Bot
  - Link
  - produced a learning video about designing Arduino Bot

- Used for PNU Engineering Promotion materials
  (Host : PNU, Engineering Festival)