JINWON KIM

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EXPERIENCE

Korea Robot Manufacturing – Seoul, Korea **Jun 2023 – ongoing**
Robot Lab, Research Engineer

- Quadruped robot
- Simultaneous Localization And Mapping (SLAM)
- Battery pack development and mass production
- Writing proposals for six national projects (NIPA, IITP, SBA, among others)

Jun 2019 – Dec 2019

Korea Institute of Science and Technology – Seoul, Korea
Center for Intelligent and Interactive Robotics, Student Researcher

- Designed and implemented a data collection pipeline using crawling to acquire 1,000 annotated images of objects in various environments
- Developed object detection and tracking algorithms using YOLOv3 and Siamese network
- Published KRoC paper and Registered patent

EDUCATION

Korea Advanced Institute of Science and Technology – Daejeon, Korea **Feb 2023**
***Master's in Robotics Program at* Scalable Graphics, Vision, and Robotics Lab**

- Track: Reinforcement Learning, Deep Learning, Intelligent Robotics
- GPA: 3.65 / 4.3

Kwangwoon University – Seoul, Korea **Feb 2021**
Bachelor's in Division of Robotics

- Track: Robot Control, Robot Navigation, Computer Vision
- GPA: 4.23 / 4.5

RESEARCH PUBLICATION

1. Collision-Backpropagation based Obstacle Avoidance Method for a Legged Robot Expressed as a Simplified Dynamics Model – BEXCO, Busan, Korea **2022**
International conference on control, automation, and systems (iccas2022)
Jinwon Kim*, S. Y., Heechan Shin*

- Proposed an obstacle avoidance algorithm for legged robots, expressed as a simplified dynamics model, and demonstrated an improvement of up to 15.89 times in the probability of collision-free trajectory planning

2. Collision Backpropagation-based Obstacle Avoidance Method for a Legged Robot with Simplified Dynamics Model – Pyeongchang, Korea **2022**
Korea robotics society annual conference (kroc2022)
Jinwon Kim*, S. Y., Heechan Shin*

- Proposed an obstacle avoidance algorithm for legged robots, expressed as a simplified dynamics model, and demonstrated an improvement in the probability of collision-free trajectory planning

3. Robust Multi Object Detection Using Siamese Network – Pyeongchang, Korea **2020**
Korea robotics society annual conference (kroc2020)
Jinwon Kim*, KangGeon Kim*
- Proposed a real-time robust multi object detection method using Siamese network to improve the object detection performance

PATENT

Robust Multi-object Detection Apparatus and Method Using Siamese Network **2020**
KR-Application No. 10-2020-0026298.
KangGeon Kim, ***Jinwon Kim***
- Proposed a real-time robust multi object detection method using Siamese network to improve the object detection performance

PROJECT

Development of Quadrupedal Robot System Technology for Monitoring, Reconnaissance, and Search Missions **Mar 2021 – JAN 2023**
Agency for Defense Development (ADD)
- Generated the initial trajectory for trajectory optimization using a deep learning network, resulting in a speedup of up to 100 times

ACTIVITIES

Auturbo **Mar 2023 - ongoin1**
Quadruped Robot Team leader *(Mar2024 –* **ongoing***),* ***Regular Member*** *(Mar 2023 – Dec 2023)*
- Developing **StrideSim**: A Quadruped Robot Simulation using IsaacSim

BARAM, Kwangwoon University – Seoul, Korea **Mar 2018 - Feb 2021**
Vice President *(Jan 2019 – Dec 2019),* ***Regular Member*** *(Mar 2018 – Dec 2018, Jan 2020 – Feb 2021)*
- Represented over 60 active members as an elected by members
- Created and showcased six robotic pieces

ADDITIONAL

- Honors: Dean's list (Dec 2020, Jun 2019, Dec 2018), Open SW mini hackathon 3rd Prize (Nov 2020)
- Coding: C++, Python, LaTeX, ROS, PyTorch, CasADi
- Language Fluency: Intermediate high in English (TOEIC: 810, OPIc: IH), Native in Korean