**Jinwon Kim**

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**EXPERIENCE**

| **Korea Robot Manufacturing** – Seoul, Korea  ***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 2023 – ongoing** |
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| **Korea Institute of Science and Technology** – Seoul, Korea  ***Center for Intelligent and Interactive Robotics, Student Researcher*** | **Jun 2019 – Dec 2019** |

* 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**](https://www.kaist.ac.kr/)– Daejeon, Korea  ***Master’s in Robotics Program at*** [**Scalable Graphics, Vision, and Robotics Lab**](https://sgvr.kaist.ac.kr/) | **Feb 2023** |
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* Track: Reinforcement Learning, Deep Learning, Intelligent Robotics
* GPA: 3.65 / 4.3

| [**Kwangwoon University**](https://www.kw.ac.kr/) – Seoul, Korea  ***Bachelor’s in Division of Robotics*** | **Feb 2021** |
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* 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**](https://ieeexplore.ieee.org/abstract/document/10003733)– BEXCO, Busan, Korea  ***International conference on control, automation, and systems (iccas2022)***  ***Jinwon Kim****, S. Y., Heechan Shin* | **2022** |
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* 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**](https://koasas.kaist.ac.kr/handle/10203/297471)– Pyeongchang, Korea  ***Korea robotics society annual conference (kroc2022)***  ***Jinwon Kim****, S. Y., Heechan Shin* | **2022** |
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* 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**](https://drive.google.com/file/d/1pyav-W6QdnO4t4RdMG1whT_0JOTUCUhq/view)– Pyeongchang, Korea  ***Korea robotics society annual conference (kroc2020)***  ***Jinwon Kim****, KangGeon Kim* | **2020** |
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* 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**](https://drive.google.com/file/d/1gXPwtCigzNw8JwByCkHw6bDLLHi24YFh/view)  ***KR-Application No. 10-2020-0026298.***  *KangGeon Kim,* ***Jinwon Kim*** | **2020** |
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* 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**  ***Agency for Defense Development (ADD)*** | **Mar 2021 – JAN 2023** |
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* 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** |
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***Quadruped Robot Team leader*** *(Mar2024 –* **ongoing***),* ***Regular Member*** *(Mar 2023 – Dec 2023)*

* Developing [**StrideSim**](https://github.com/AuTURBO/StrideSim): A Quadruped Robot Simulation using IsaacSim

| [**BARAM**](https://cafe.naver.com/roboticsbaram)**, Kwangwoon University** – Seoul, Korea | **Mar 2018 - Feb 2021** |
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***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