JAEEUN KIM

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CAREER OBJECTIVE

Aspiring Robotics Engineer with hardware and electric circuit design, software development, computer vision task skills. Looking for research opportunities in multi-robot systems, human-robot interaction, mechanism design and control, and machine learning.

EDUCATION

Bachelor of Science *August 2017 - December 2021*
Purdue University, West Lafayette, Indiana, USA
Major: Robotics Engineering Technology

Relevant Coursework
Mechatronics, Robotics, Data Acquisition, Manufacturing Processes, Fluid Power, Statics, Cognitive Psychology

WORK EXPERIENCE

Research Assistant - SMART Lab *October 2019 - December 2021*
Purdue Polytechnic Institute, Purdue University, West Lafayette, Indiana, USA

AWARDS AND HONORS

Polytechnic Research Scholarship - SMART Lab *May 2020*
SMART Lab, Purdue University, West Lafayette, Indiana, USA

Purdue Undergraduate Research Expo *May 2021*
1st Place Oral Presentation in Polytechnic Institute

IROS Workshop on HMRS 2021 *January 2022*
Excellent Paper Awards

PROJECTS

CAREER Project *October 2019 - December 2021*
Development of adaptive human-multi robot systems to enable human operators to adapt to robot system changes and robots to adapt to human cognitive and emotional states, funded by National Science Foundation (IIS-1846221)

Low-Cost ROS2 Mobile Robot Platform *October 2019 - December 2021*
The project creates a platform that utilizes ROS2 and serves as a toolkit for research and education.
`https://github.com/SMARTlab-Purdue/SMARTmBOT`

ROS2 Integrated Biosensor Packages *September 2021 - October 2021*
Development of ROS2 packages of commercially available biosensors.
`https://github.com/SMARTlab-Purdue/ros2-foxy-wearable-biosensors`

Multi-Robot System Outdoor Navigation Utilizing OpenCV *October 2021 - December 2021*
The project uses a generic webcam to capture a 3D ArUco marker image to read its position and perform a leader-follower multi-robot system navigation with minimized cost.
`https://github.com/jekim526/jackal_marker_follower`

Plant Analysis Mobile Application *January 2021 - December 2021*
A front-end development of a plant analyzing mobile application utilizing the Flutter framework and Dart language.
`https://github.com/JaeeunKim0526/plant_analysis`

TECHNICAL STRENGTHS

Computer Languages	Python, C/C++
Scientific Tools	ROS1 and ROS2, OpenCV
Operating Systems	Unix/Linux, Windows
Hardware Design Tools	SoildWorks, EAGLE, Autodesk Inventor
Microprocessors	Arduino series
Single-board computer	Raspberry Pi series

PUBLICATIONS

Conferences

1. Wonse Jo, Robert Wilson, **Jaeeun Kim**, Steve McGuire, and Byung-Cheol Min, "Toward a Wearable Biosensor Ecosystem on ROS 2 for Real-time Human-Robot Interaction Systems," *2021 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Workshop on HMRS 2021: Cognitive and Social Aspects of Human Multi-Robot Interaction*, Prague, Czech Republic, Sep 27 Oct 1, 2021.
2. Wonse Jo, **Jaeeun Kim**, and Byung-Cheol Min, "ROS2 Open-Source Swarm Robot Platform: SMARTmBot," 2021 International Conference on Robotics and Automation (ICRA), Workshop on Robot Swarms in the Real World: From Design to Deployment - Live Demonstration, Xi'an, China, May 30 - June 5, 2021.

Posters

1. **Jaeeun Kim**, Wonse Jo, Ahreum Lee, and Byung-Cheol Min, "Development of an Open-source Mobile Robot Platform for Multi-robot Systems," *2021 Purdue Spring Undergraduate Research Expo*, Purdue University, Apr. 2021. [**Academic Unit Awards - Research Talks**]
2. **Jaeeun Kim**, Wonse Jo, and Byung-Cheol Min, "Development of an Open-source Mobile Robot Platform for Multi-robot systems," *2020 Fall the Realizing the Digital Enterprise (RDE) Mini-Talk Session*, Purdue University, Nov. 2020.
3. **Jaeeun Kim**, Wonse Jo, Ahreum Lee, and Byung-Cheol Min, "A Study on the Impact of Audio-visual Feedback in Human-Swarm Interaction," *2019 Purdue Fall Undergraduate Research Expo*, Purdue University, Nov. 2019.

EXTRA-CIRRUCULAR

Purdue Kendo Club
Member *August 2017 - December 2020*
President *January 2021 - May 2021*

Purdue Korean Presbyterian Church
Member *August 2017 - May 2019*
Leader *August 2019 - December 2021*

Purdue Polytechnic High school
2020 Fall Virtual Outreach *October 2020*
2021 Fall Outreach *October 2021*