

# Dayeon Kim

Robotics Engineer  
dkim214@jhu.edu | <https://dayon95.github.io>

INTERESTS	Augmented Reality, Robotic Control, Human Robot Interaction, Deep Learning	
EDUCATION	<b>Johns Hopkins University (JHU)</b> <i>Ph.D. Student</i>	Maryland, United States Sept 2019 - Present
	<ul style="list-style-type: none"><li>▪ Full Time Ph.D. Student in Computer Science</li><li>▪ Member of Laboratory for Computational Sensing and Robotics (LCSR)<ul style="list-style-type: none"><li>• First Advisor: Peter Kazanzides [<a href="#">website</a>]</li><li>• Second Advisor: Chien-Ming Huang [<a href="#">website</a>]</li></ul></li></ul>	
	<b>Pohang University of Science and Technology (POSTECH)</b> <i>Undergraduate Student</i>	Pohang, Republic of Korea Feb 2014 - Aug 2019
	<ul style="list-style-type: none"><li>▪ Bachelor of Science in Mechanical Engineering (Major)</li><li>▪ Bachelor of Science in Computer Science and Engineering (Minor)</li></ul>	
	<b>Imperial College London</b> <i>Exchange Student</i>	London, England Jun 2016 - Jul 2016
PUBLICATIONS	<b>JOURNALS</b>	
	Young Jin Heo, <b>Dayeon Kim</b> , Woongyong Lee, Hyoungkyun Kim, Jonghoon Park, and Wan Kyun Chung, “Collision Detection for Industrial Collaborative Robots: A Deep Learning Approach”, <i>IEEE Robotics and Automation Letters</i> , 2019 [ <a href="#">pdf</a> ]	
	Young Jin Heo, Se Jin Kim, <b>Dayeon Kim</b> , Keondo Lee, and Wan Kyun Chung, “Super-High-Purity Seed Sorter using Low-latency Image-Recognition based on Deep Learning”, <i>IEEE Robotics and Automation Letters</i> 3(4), Oct 2018 [ <a href="#">pdf</a> ]	
	<b>CONFERENCES</b>	
	Young Jin Heo, <b>Dayeon Kim</b> , Woongyong Lee, Hyoungkyun Kim, Jonghoon Park, and Wan Kyun Chung, “Collision Detection for Industrial Collaborative Robots: A Deep Learning Approach”, <i>IEEE International Conference on Robotics and Automation (ICRA)</i> , Montreal, Canada, May 2019	
	Young Jin Heo, Se Jin Kim, <b>Dayeon Kim</b> , Keondo Lee, and Wan Kyun Chung, “Super-High-Purity Seed Sorter using Low-latency Image-Recognition based on Deep Learning”, <i>International Conference on Intelligent Robots and Systems (IROS)</i> , Madrid, Spain, Oct 2018	
	<b>Dayeon Kim</b> , Seong Ho Yeon, Gilhyun Ryou, and Youngwoo Sim, “System Design for Autonomous Table Tennis Ball Collecting Robot”, <i>International Conference on Control, Automation and Systems (ICCAS)</i> , Jeju, Korea, Oct 2017 [ <a href="#">pdf</a> ]	
PATENTS	<b>KR10-2019-0016334</b> , “PICK UP ROBOT”, Korea, Issued Feb 18, 2019 - System design of an autonomous ball collecting robot	
	<b>KR10-197025</b> , “METHOD OF CONTROLLING PICKUP ROBOT”, Korea, Issued Apr 12, 2019 - Motion planning algorithm for a vision feedback-based mobile robot	
	<b>KR10-2019-0018348</b> , “MOTOR DYNAMOMETER AND METHOD FOR PERFORMANCE EVALUATION OF A MOTOR”, Korea, Issued Feb 22, 2019 - System design of low-cost motor dynamometer	
RESEARCH EXPERIENCE	<b>Sensing, Manipulation, and Real-Time Systems (SMARTS) lab, JHU</b> <i>Ph.D. Student</i>	Aug 2019 - Present
	<ul style="list-style-type: none"><li>▪ Main Advisor: Professor Peter Kazanzides</li><li>▪ Leading project: ‘Image-based Control of Prosthetic Hand Using Head Mounted Display’<ul style="list-style-type: none"><li>• Main Components: Object Detection and 6D Pose Estimation using RGB images, and Augmented Reality User Interface</li></ul></li></ul>	

- Paper ready to be submitted to ICRA and RA-L

**Robotics Laboratory, POSTECH**

Sept 2017 - Feb 2019

*Research Assistant Intern*

- Main Advisor: Professor Wan Kyun Chung
- Led project: ‘Robust object detection in cluttered scene using reinforcement learning’
- Participated in two major projects
  - ‘Collision detection, classification, and reaction’
  - ‘Optical sorting system with high accuracy & low latency’

**Interactive & Networked Robotics Laboratory, Seoul National University**

Sept 2016 -  
Dec 2016

*Research Assistant Intern*

- Main Advisor: Professor Dongjun Lee
- Led project on development of telepresence robot
- Developed Android application for interaction with human and robot
  - Built up near real-time transmission of video data streams to remote client
  - Focus: Teleoperation of Unmanned Ground Vehicle (UGV), Robotic vision & control

**Multiscale Bio Mechanical Engineering, POSTECH**

Dec 2015 - Feb 2016

*Research Assistant Intern*

- Main Advisor: Professor Jaesung Park
- Developed Android application for counting cells in video
- Participated in development of portable microscope

WORK  
EXPERIENCE

**Neuromeka** [\[website\]](#)

Jul 2018 - Feb 2019

*Research Intern*

- Main Advisor : Dr. Jonghoon Park (CEO)
- Developed robotic vision system for pick-and-place task
- Introduced vision system at 2018 Robot World - KINTEX, South Korea
- Implemented meta-learning algorithm to control Ant agent of OpenAI Gym using MuJoCo library

**NAVER LABS Robotics Group** [\[website\]](#)

Jan 2017 - Jun 2017

*Research Intern*

- Main Advisor : Dr. Sangok Seok (Executive Vice President)
- Improved the design of Printed Circuit Board (PCB) for Power Management System
- Participated in intern project: ‘Autonomous mobile robot system for table tennis ball collection’
- Devised novel design of dynamometer, a machine for evaluating motor characteristics
- Developed two Android Applications: Real-time transmission of video data streams and Wi-fi positioning system

SCHOLARSHIPS

- **GE Foundation Scholar-Leaders Program**, GE Foundation

2015 – 2018

- \$2,660/year, granted for academic excellence

- **National Science and Engineering Scholarship**, KSAF

2014 – 2019

- Full tuition, up to \$3,071 per semester

TEACHING

**Introduction to Human-Computer Interaction, JHU**

Sep 2020 - Present

*Teaching Assistant*

- Introducing design techniques and practices in Human-Computer Interaction (HCI)
- Holding office hours to answer questions and making tutorials for HCI projects

**Sensors and Measurements, POSTECH**

Mar 2016 - Jun 2016

*Tutor*

- Covered probability and statistics for data analysis, sensor characteristics and signal processing techniques
- Held mentoring program for 10 students every week, and answered questions both in-person and online

TECHNICAL  
SKILLS

**Programming Languages**

- **Advanced** C++, C#, Python, Java

- **Moderate** C, MATLAB, HTML, CSS, PHP, JavaScript
- **Novice** Ocaml, Assembly Language (x86-64)

#### **APIs, Libraries and Frameworks**

- Unity, UWP, Keras, Tensorflow, Blender, MuJoCo, Solidworks, OrCAD, Django

#### **IDEs & SDKs**

- Jupyter notebook, Visual Studio, Eclipse, Android Studio, LabVIEW, Atmel Studio