

CONTACT INFORMATION	Pittsburgh, PA, United States <a href="https://chjohnkim.github.io/">https://chjohnkim.github.io/</a>	<a href="mailto:chunghek@andrew.cmu.edu">chunghek@andrew.cmu.edu</a> +1 412 954 8134
EDUCATION	<b>Carnegie Mellon University</b> <i>Ph.D. in Robotics</i> (Advisor: Dr. George Kantor) <b>The Hong Kong University of Science and Technology</b> <i>M.Phil. in Electronic and Computer Engineering</i> (Advisor: Dr. Jungwon Seo) <b>The Hong Kong University of Science and Technology</b> <i>B.Eng. in Mechanical Engineering (First Class Honors)</i> * Overseas Student Exchange Program: <b>Georgia Institute of Technology</b>	AUG 2021 – FEB 2018 – FEB 2020 SEP 2012 – DEC 2017
RESEARCH EXPERIENCE	<b>Research Assistant</b> <i>The Robotics Institute, Carnegie Mellon University, Pittsburgh PA</i> <ul style="list-style-type: none"><li>Research focus: Intelligent manipulation, perception, and reinforcement learning in agricultural robotics</li></ul> <b>Research Assistant</b> <i>Robotic Manipulation Lab, HKUST Robotics Institute, Hong Kong</i> <ul style="list-style-type: none"><li>Research focus: Dexterous robotic manipulation</li><li>Utilized the industrial robot arm to develop an award-winning novel manipulation technique that can readily be applied to assembly automation</li></ul> <b>Undergraduate Research Opportunities Program</b> <i>The Hong Kong University of Science and Technology</i> <ul style="list-style-type: none"><li>Research focus: Underwater remotely operated vehicle (ROV)</li><li>Successfully demonstrated a working prototype of an underwater robot featured in Robotics Day 2017</li></ul>	AUG 2021 – FEB 2018 – JUN 2020 JUN 2017 – DEC 2017
PUBLICATIONS AND PATENTS	<ul style="list-style-type: none"><li>[1] <b>C. H. Kim</b>, G. Kantor, “Occlusion Reasoning for Skeleton Extraction of Self-Occluded Tree Canopies”, <i>International Conference on Robotics and Automation (ICRA)</i>, 2023</li><li>[2] H. Freeman, E. Schneider, <b>C. H. Kim</b>, M. Lee, G. Kantor “3D Reconstruction-Based Seed Counting of Sorghum Panicles for Agricultural Inspection”, <i>International Conference on Robotics and Automation (ICRA)</i>, 2023</li><li>[3] <b>C. H. Kim</b>, K. H. Mak, J. Seo, “Planning for Dexterous Ungrasping: Secure Ungrasping through Dexterous Manipulation”, <i>IEEE Robotics and Automation Letters</i>, 2022</li><li>[4] K. H. Mak, <b>C. H. Kim</b>, J. Seo, “Robust Ungrasping of High Aspect Ratio Objects Through Dexterous Manipulation”, <i>IEEE Robotics and Automation Letters</i>, 2022</li><li>[5] Z. Tong, Y. H. Ng, <b>C. H. Kim</b>, T. He, J. Seo, “Dig-Grasping via Direct Quasistatic Interaction Using Asymmetric Fingers: An Approach to Effective Bin Picking”, <i>IEEE Robotics and Automation Letters</i>, 2021</li><li>[6] Z. Tong, T. He, <b>C. H. Kim</b>, Y. Ng, Q. Xu, and J. Seo, “Picking Thin Objects by Tilt-and-Pivot Manipulation and Its Application to Bin Picking”, <i>International Conference on Robotics and Automation (ICRA)</i>, 2020</li><li>[7] <b>C. H. Kim</b>, J. Seo, “System and Methods for Robotic Precision Placement and Insertion,” <i>U.S. Patent Application 16/871,884</i>, filed February 25, 2021.</li><li>[8] <b>C. H. Kim</b>, J. Seo, “Shallow-Depth Insertion: Peg in Shallow Hole through Robotic In-Hand Manipulation”, <i>IEEE Robotics and Automation Letters</i>, 2019<ul style="list-style-type: none"><li>Best Paper Award in Robot Manipulation (ICRA 2019)</li></ul></li></ul>	

PROFESSIONAL EXPERIENCE	<b>Engineer</b>		AUG 2020 – JUL 2021
	<i>Hong Kong Applied Science and Technology Research Institute, Hong Kong</i>		
	<ul style="list-style-type: none"> <li>Developed web application for users to submit machine learning tasks to be executed on GPU server</li> <li>Conducted research in SOTA methods for synthetic face generation and customization using GANs</li> </ul>		
	<b>Robotics Engineer (Intern)</b>		JUNE 2019 – AUG 2019
	<i>XYZ Robotics Inc., Shanghai, China</i>		
	<ul style="list-style-type: none"> <li>Developed a Mini-ASRS (Automated Storage &amp; Retrieval System) software package for calibration, robot trajectory planning and execution</li> <li>Received Outstanding Intern Award for contributing to optimizing company's Goods-to-Robot system</li> </ul>		
	<b>Sergeant</b>		OCT 2014 – JUL 2016
	<i>First Army Battalion, 177<sup>th</sup> Army Brigade, Republic of Korea Army, South Korea</i>		
HONORS AND AWARDS	ICRA 2022 RAS Travel Grant		2022
	ICRA 2019 Best Paper Award in Robot Manipulation		2019
	ICRA 2019 RAS Travel Grant		2019
	University Grants Committee (UGC) Research Travel Grant		2019
	HKUST Academic Achievement Medal ( <i>top 1% of graduates</i> )		2017
GRADUATE COURSEWORKS	CMU 16-825	Learning for 3D Vision	SPRING 2023
	CMU 16-711	Kinematics, Dynamics, and Control	SPRING 2023
	CMU 16-740	AI for Manipulation	FALL 2022
	CMU 10-715	Advanced Introduction to Machine Learning	FALL 2022
	CMU 11-785	Introduction to Deep Learning	SPRING 2022
	CMU 16-833	Robot Localization and Mapping	SPRING 2022
	CMU 16-720	Computer Vision	FALL 2021
	CMU 16-811	Math Fundamentals for Robotics	FALL 2021
	HKUST ELEC5660	Introduction to Aerial Robotics	SPRING 2019
	HKUST ELEC5640	Robotic Manipulation	FALL 2018
	HKUST COMP5212	Machine Learning	FALL 2018
	HKUST ELEC6910	Robot Perception and Learning	SPRING 2018
	HKUST EESM5730	Modern Control Systems Design	SPRING 2018
COMPETENCES	<b>Languages</b> English ( <i>native</i> ), Korean ( <i>native</i> ), Mandarin Chinese ( <i>conversational</i> )		
	<b>Skills</b> Python, C++, MATLAB, PyTorch, ROS, git, SolidWorks, Adobe Photoshop & Illustrator, $\text{\LaTeX}$		
	<b>Hobbies</b> Acoustic Guitar ( <i>self-taught</i> ), Tennis		

Last update: January 20, 2023