

Junseo(Jason) Kim

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Research Interests

Robot Learning, Manipulation, Computer Vision, SLAM, Sim2Real, Physics Simulation

Education

[†] Note: Includes 18 months of military service

Delft University of Technology (TU Delft) <i>Msc in Robotics</i>	09/2024 – Present Delft, Netherlands
Toronto Metropolitan University (Formerly Ryerson University) <i>BEng in Mechanical Engineering - Mechatronics (With Distinction)</i>	09/2018 – 06/2024 [†] Toronto, ON, Canada

Research Experience

Bot Intelligence Group (BIG) - Visiting Research Scholar <i>Carnegie Mellon University, Robotics Institute - Supervised by Dr. Jean Oh</i>	08/2025 – Present Pittsburgh, PA, United States
Autonomous Multi-Robots Lab <i>Delft University of Technology - Supervised by Dr. Javier Alonso-Mora</i>	10/2024 – Present Delft, Netherlands
The Robotics and Computer Vision Lab (RCVL) <i>Toronto Metropolitan University - Supervised by Dr. Sajad Saeedi</i>	04/2023 – 08/2024 Toronto, Canada
Geometric Computing Lab <i>Toronto Metropolitan University - Supervised by Dr. Yeganeh Bahoo</i>	05/2023 – 08/2024 Toronto, Canada

Publications

^{*} Note: Equal Contribution, J: Journal, C: Conference, P: Preprint

- [J1] M. Lisondra^{*}, **J.Kim^{*}**, G.Shimoda, K.Zareinia, and S. Saeedi *TCB-VIO: Tightly-Coupled Focal-Plane Binary-Enhanced Visual Inertial Odometry*. in *IEEE Robotics and Automation Letters*, vol. 10, no. 12, pp. 12341-12348, Dec. 2025, doi: 10.1109/LRA.2025.3619774.
- [C2] **J.Kim**, J. Zalat, Y. Bahoo, and S. Saeedi. *Structure from WiFi (SfW): RSSI-based Geometric Mapping of Indoor Environments*. in *2024 American Control Conference (ACC)*, Toronto, ON, Canada, 2024, pp. 259-264, doi: 10.23919/ACC60939.2024.10644833.
- [C1] M. Lisondra^{*}, **J.Kim^{*}**, R. Murai, K.Zareinia, and S. Saeedi. *"Visual Inertial Odometry using Focal Plane Binary Features (BIT-VIO)"*. in *2024 IEEE International Conference on Robotics and Automation (ICRA)*, Yokohama, Japan, 2024, pp. 1661-1668, doi: 10.1109/ICRA57147.2024.10610838.
- [P4] **J.Kim^{*}**, G.Dumont^{*}, X.Gao^{*}, G.Chen^{*}, H.Caesar, and J. Alonso-Mora. *MobileOcc: A Human-Aware Semantic Occupancy Dataset for Mobile Robots*. in <https://arxiv.org/abs/2511.16949> (Under Review at Conference on Computer Vision and Pattern Recognition (CVPR) 2026)
- [P3] **J.Kim^{*}**, M.Lisondra^{*}, Y.Bahoo, and S. Saeedi. *Inverse k-visibility for RSSI-based Indoor Geometric Mapping*. in <https://arxiv.org/abs/2408.07757> (Under Review at Springer Autonomous Robots)

[P2] H.Seo, S.Choi, M.Hong, Y.Zhou, **J.Kim**, L.Ismaila, N.Etori, M.Agarwal, Z.Liu, J.Kim, and J.Oh. *Exposing Blindspots: Cultural Bias Evaluation in Generative Image Models*. in <https://arxiv.org/abs/2510.20042> (Under Review at International Association for Safe and Ethical Artificial Intelligence (IASEAI) 2026)

[P1] I.Mehta, **J.Kim**, S.Taghipour, and S. Saeedi. *M³RS: Multi-agent, Multi-objective, and Multi-mode Routing and Scheduling*. in <https://arxiv.org/abs/2403.16275> (Under Review at Wiley Journal of Field Robotics)

Other Experience

Board of Studies - Master Robotics Program <i>Delft University of Technology</i>	10/2024 – 10/2025 <i>Delft, Netherlands</i>
Project Sapience (Cooperative Drone Competition) - TU Delft Team <i>NATO Science for Peace and Security Program - Supervised by Dr. Ewoud Smeur</i>	10/2024 – 07/2025 <i>Delft, Netherlands</i>
Undergraduate Intern in 3D printing Technology <i>Korea Institute of Industrial Technology (KITECH) - Supervised by Dr. Hyub Lee</i>	07/2022 – 08/2022 <i>Siheung, South Korea</i>
Automobile Mechanics <i>Republic of Korea Military Army</i>	12/2020 – 06/2022 <i>Cheolwon, South Korea</i>
Association of Korean-Canadian Scientists and Engineers - President <i>Toronto Metropolitan University Chapter(YG)</i>	09/2019 – 08/2020 <i>Toronto, Canada</i>

Awards & Honors

Justus and Louise van Effen Research Grant <i>Delft University of Technology - Carnegie Mellon University</i>	2025
Justus and Louise van Effen Excellence Scholarship - Fully Funded <i>Delft University of Technology</i>	2024 - 2026
Gwangyang Municipal Baegun Scholarship <i>Gwangyang city Baegun Scholarship Association</i>	2023
Korean Canadian Scientists Scholarship Foundation Award <i>The Association of Korean-Canadian Scientists and Engineers</i>	2023
UIRO(Undergraduate Interdisciplinary Research Opportunities) Award <i>Toronto Metropolitan University - Co-Supervised by Dr.Sajad Saeedi and Dr. Yeganeh Bahoo</i>	2023
The Norman ESCH Award Stage 1 <i>Toronto Metropolitan University - Supervised by Dr. ChungHyuk Lee</i>	2023
Dean's List <i>Toronto Metropolitan University</i>	2019 - 2020, 2022-2024
Solidworks certificate of Mechanical Design <i>Dassault Systems</i>	2019

Academic Service - Reviewer

International Conference on Robotics and Automation (ICRA): 2026
International Conference on Intelligent Robots and Systems (IROS): 2024

Relevant Skills

Programming: Python, C, C++
Frameworks & Libraries: ROS 1/2, NVIDIA Warp, NVIDIA Newton, MuJoCo, OpenCV
Tools: SolidWorks, L^AT_EX