Anh Tung Ho

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Education

Korea Advanced Institute of Science and Technology (KAIST) Daejeon, South Korea
B.Sc. in Mechanical Engineering; ***GPA: 3.87/4.30 (Magna Cum Laude)*** *Mar 2020 – Feb 2024 (Expected)*
In combination with Electrical Engineering and Industrial Engineering

Awards & Achievements

Outstanding Academic Achievement in Spring Semester 2022: Top 5 most excellent students in the Mechanical Engineering Department.

Experience

Smart Manufacturing Systems Laboratory (SMS Lab), KAIST Advisor: Prof. Huitaek Yun
Research Intern *Jun 2023 – Present*

- Researched automatic bin-picking systems and the application of Deep Learning in training robots with the initial human demonstration.
- Developed a comprehensive automatic bin-picking platform with a 6-DOF manipulator, RGB-D Realsense Camera, and pneumatic gripper. Trained the YOLOv5 model to detect objects inside cluttered bins effectively.
- Proposed a novel multiple-view scan-matching method to leverage the performance of precise bin-picking tasks with a single low-cost RGB-D camera. The method can keep the error in pose estimation within 2 mm and boost the average picking success rate to 98%.

Robotic and Simulation Laboratory (RSLab), KAIST Advisor: Prof. Doo Yong Lee
Research Intern *Sep 2022 – Dec 2022*

- Conducted research on controlling robotic manipulators in surgical teleoperation. Studied how to apply control theory, such as Model-Mediated method and Input-to-State Stability conditions, to enhance the stability and fidelity of system in uncertain environments with the presence of communication delay.
- Designed mock surgery experiments to verify the precision of the model-mediated method with the KUKA 7-DOF manipulator and Omega haptic device.
- Proposed an adaptive controller that reduced error in rendering feedback force by 50% compared to the method in previous publication.

IMWI Technology (DeltaX Robot) Danang, Vietnam
Robotic Engineering Intern *Jun 2022 – Sep 2022*

- Researched the development of high-speed parallel delta robots for production lines.
- Designed Simulink models to analyze kinematic, dynamic, and motion planning of company's products, including industrial delta and quadrupedal robots.

Innovation Design Optimization Laboratory (Idol Lab), KAIST Advisor: Prof. Ik Jin Lee
Research Intern *Dec 2021 – Mar 2022*

- Conducted research on applying machine learning and statistical methods to optimize the hardware design process in the face of uncertain conditions.
- Utilized Kriging-Gaussian interpolation to create surrogate model which optimizes the design for crashworthiness of vehicle side impact. The design minimizes the deformation from impact while maintaining the required weight.

Skills

Programming: C / C++, Python, MATLAB, ROS / ROS 2

Techniques: Design Feedback Controller (MATLAB, LabVIEW), Model Dynamic Systems (Simulink, Gazebo), Design Hardware (SolidWorks), Embedded System (Arduino, Raspberry Pi), Point Cloud Process (PCL, Open3D), Computer Vision (OpenCV), Apply Machine Learning and Deep Learning (Pytorch, Sklearn)

Languages: English (Advanced)

References

Professor Huitaek Yun
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Professor Huyn Jin Kim
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Professor Seungbum Koo
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