


# ANH TUNG HO

 [Personal Website](#)

 [Google Scholar](#)

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## Education

### Stony Brook University

Ph.D. in Mechanical Engineering, GPA: 4.0

Sep 2024 – Present

Stony Brook, New York, USA

### Korea Advanced Institute of Science and Technology (KAIST)

B.Sc. in Mechanical Engineering, Cum Laude Degree

Mar 2020 – Feb 2024

Daejeon, South Korea

## Experience

### The Soft Flyers Laboratory

Research Assistant | Advisor: Prof. William Stewart

Sep 2024 – Present

NY, USA

- Utilized Machine Learning for hardware optimization of fixed-wing UAVs to enhance safety in human-UAV collisions.
- Automated FEA crashworthiness simulation, enabling end-to-end loop for design optimization and validation process.

### LG Electronics

Robotics Engineer

Apr 2024 – Aug 2024

Gyeonggi, South Korea

- Led team (7 people) to develop an AI-driven manipulation system for automating OLED screen defect inspections
- Designed digital twin model for system including XY gantry, 7-DOF robot arm, and 3D vision systems.
- Developed a visual-guided motion planning algorithm for manipulator based on deep-learning object detection results.

### Luxolis AI

Robotics Engineer

Feb 2024 – Aug 2024

Gyeonggi, South Korea



- Completed the initial prototype of low-cost portable RGB-D camera for real-time 3D scene reconstruction.
- Optimized Visual-Inertial SLAM pipeline with IMU, reducing data storage by 5x and improving render speed by 10x.

### Smart Manufacturing Systems Laboratory

Research Assistant | Advisor: Prof. Huitaek Yun

Jun 2023 – Feb 2024

Daejeon, South Korea


- Developed an autonomous bin-picking system with Doosan 7-DOF manipulator, pneumatic gripper system and RGB-D camera with integration of deep learning vision model for object detection. ( [Video](#),  [Code](#))
- Proposed a multi-view matching algorithm to improve the precise of object pose estimation with a single low-cost RGB-D camera by 70% and ensure the error within 2mm.

### Robotic and Simulation Laboratory

Research Intern | Advisor: Prof. Doo Yong Lee

Sep 2022 – Dec 2022

Daejeon, South Korea

- Researched nonlinear control theory in teleoperated surgical robots interacting with uncertain environments.
- Developed an adaptive model-mediated controller that ensures stability even the presence of communication delay and increases fidelity in rendering feedback force by 50% compared to previous publication. ( [Report](#))

### Delta X Robotics

Robotics Engineer Intern

Jun 2022 – Sep 2022

Danang, Vietnam

- Designed Simulink models to analyze dynamics for high-speed parallel delta robots and quadrupedal robots. ( [Video](#))

## Publication

"Utilizing Multiple Point Cloud Scenes for Precise Robotic Bin-Picking Tasks", Anh Tung Ho, Pung Kyu Lee, Huitaek Yun, *The Korean Society of Mechanical Engineers Spring and Autumn Conference, 2024.*

## Selected Projects ( Full Portfolio)

### SpaceX Rocket Booster Landing Simulation ( [Video](#), [Code](#))

2024

- Created a physics engine for 3D rigid body dynamics with GUI to simulate SpaceX booster landing process.
- Designed feedback Linear Quadratic Regulator (LQR) and Model Predictive Controller (MPC) for whole body control.

### Capstone Design for Autonomous Hovercraft ( [Video](#), [Code](#))

2023

- Led team (5 people) to design an autonomous Lidar-based hovercraft controlled by cushion-air mechanism.
- Developed a feedback LQR controller to optimize thrust and lifting force, ensuring seamless motion.

### AI-Driven Autonomous Racing Car Tournament ( [Video](#), [Code](#))

2022

- Led a team of six to build an autonomous racing car controlled by a Jetson Nano, achieving first place in contest.
- Developed Lidar-Visual algorithm for obstacle avoidance, achieving a real-time computational rate of 30Hz.

## Honors and Awards

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- Outstanding Academic Achievement Award in Spring Semester **2022**
- Third Prize in Vietnamese National Physics Olympiad **2018**
- Honor Prize in Vietnamese National Physics Olympiad **2017**

## Relevant Courses

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Advanced Dynamics, Modeling and Control System, Automatic Control, Robotics System Programming, Introduction to Multidisciplinary Robotics, Computer Vision, Basics of Artificial Intelligence, Mechanical Component Design, Smart Factory for Human-Machine Collaboration, Circuit Theory, Signal and Image Processing

## Technical Skills

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**Programming:** C/C++, Python, MATLAB

**Frameworks:** ROS/ROS 2, Gazebo/PyBullet/Simulink, LS-DYNA, SolidWorks, Pytorch, OpenCV, Git, Linux, Raspberry Pi/Jetson

## Referees

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### Prof. William Stewart

Assistant Professor

Director of Soft Flyers Group Laboratory

Department of Mechanical Engineering, Stony Brook University, NY, USA

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### Prof. Huitaek Yun

Assistant Professor

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### Mr. Junbeom Koo

Principal Researcher

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