# Hahvi Cho

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## EDUCATION

**Stanford University** | Stanford, California **September 2023 – May 2025 (Expected)**
- M.S. in Mechanical Engineering.

**University at Buffalo - State University of New York (SUNY)** | Buffalo, New York **August 2020 – May 2023**
- B.S. in Mechanical Engineering. GPA: 4.0/4.0

## Work Experience

**Robotics Internship** **Centrillion Technology**
*Full-time intern* **June 2024 – Present**
- Applied the Trossen Robotics' Mobile ALOHA (Bimanual Mobile Manipulation) to automate manufacturing processes through imitation learning, enabling robots to mimic human actions.
- Experimented with various policy algorithms in diverse environments to optimize robotic performance.

**Sun-Signs Engineering Internship** **University at Buffalo**
*Unpaid part-time intern* **February 2022 – June 2022**
- Created a miniature solar device which attached to street signs for navigating in the winter.
- Designed the prototype as the best design using CAD and printed it using 3D printer with PLA filament.

## RESEARCH EXPERIENCE

**Stanford Vision and Learning Lab** **Stanford University**
*Graduate researcher* **June 2024 – Present**
- Contributed to the development of NOIR 2.0, an advanced brain-robot interface system that enables humans to control robotic tasks through EEG-based neural signal decoding.
- Applied machine learning techniques, including few-shot learning and pre-trained vision-language models, to improve the efficiency of object and task recognition in robotic systems.

**Collaborative Haptics and Robotics in Medicine Lab** **Stanford University**
*Graduate researcher* **March 2024 – June 2024**
- Led the redesign of the base station for a vine-like robot, focusing on achieving a reliable sealing mechanism to maintain high pressure (up to 15 PSI).
- Developed and tested various sealing methods, including gaskets and thread sealants, to ensure airtight connections.

**Salisbury Robotics Lab** **Stanford University**
*Graduate researcher* **March 2024 – June 2024**
- Contributed to the development of robotic Emergency Medical Technician (rEMT) by using Kinova Gen 3, Bota force sensor, and Haply Inverse-3 haptic device.
- Created advanced motion control and haptic perception capabilities, enabling the rEMT to perform sensitive medical tasks, such as palpating tissues to assess stiffness.

**Stanford Biomechatronics Lab** **Stanford University**
*Graduate researcher* **September 2023 – May 2024**
- Focused on the development of exoskeleton technology to assess and enhance human walking balance.
- Tested human-subjected gait data based on several balanced metrics and determining how to declare which gait is balanced.

**Adaptive Design Algorithms, Models & Systems Lab** **University at Buffalo**
*Undergraduate researcher* **February 2022 – May 2023**
- Programmed ground robots (e-puck2) and aerial robots (crazy-fly) using C++ and Python.
- Did experiments in the motion capture lab using Vicon Tracker to control the swarm robots at the same time.

## HONORS AND AWARDS

**Dean's List** | University at Buffalo **Spring 2021 – Spring 2023**
**International Scholarship** | University at Buffalo **Fall 2020 – Spring 2023**
- $3,500 per semester in a row

## PUBLICATIONS

**Fast Decision Support for Air Traffic Management at Urban Air Mobility Vertiports Usin** IROS 2023
KrisshnaKumar, P., Witter, J., Paul, S., **Cho, H.**, Dantu, K., Chowdhury, S.

**Framework for Analyzing Human Cognition in Operationally-Relevant Human Swarm Interaction** ASME 2023
Distefano, J., **Cho, H.**, KrisshnaKumar, P., Esfahani, E., Chowdhury, S.

## COMPUTATIONAL SKILLS

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|---|---|
| Languages: | C (Expert), C# (Expert), Python (Expert), Java (Intermediate), JavaScript (Intermediate) |
| Applications: | ROS (Expert), MATLAB (Expert), SOLIDWORKS (Expert), Adobe Inventor (Expert) |
| Engineering Skills: | Motion capture using Vicon Tracker (Expert), 3D printing (Expert), Milling machines (Expert) |