

HUBERT KIM

MECHATRONICS ENGINEER

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SKILLS & TOOLS

Hardwares, Electronics

- PLC
- ARM Processor

Data Analysis

- MATLAB
- Python

Robot Programming

- RAPID - RobotStudio
- RobotDK

Camera/Image Processing

- OpenCV

EDUCATION

PhD,

Mechanical Engineering
Virginia Tech, Blacksburg, VA
Earned in Dec 2021

: ICTAS Doctoral Scholarship

BS, *cum laude*,

Mechanical Engineering
NYU Tandon, Brooklyn, NY
Earned in May 2015

: Best Mechanical Engineering
Experience Award for
Undergraduate

April 2015

SUMMARY

A mechatronics research engineer developing methods for 1) increasing precision for automation recipe and 2) analyzing sub-component for early product development.

PROFESSIONAL EXPERIENCE

SYSTEM ENGINEER

Aug 2022 – Current

Mechanical Components and Systems Lab | **GE Aerospace Research Center**

AUTOMATING MANUFACTURE PROCESS, SOFT MATERIALS

- Designed and built a multi-robot cell using custom end-effector
- Developed 2D camera-based Calibration method for multi-robot task
- Designed miniaturized end-effectors for compliant material handling

INSPECTION SERVICE TOOL FOR A LIMITED ACCESSABILITY

- Developing evaluation methods for early technology surveillance robot to solve the accessibility problem
- Experimentally quantified the parameters from the physical contact during various deployment system
- Realized camera-IMU synchronization system for compensating tool's inherent vibration

GRADUATE RESEARCH ASSISTANT

May 2015 – Dec 2021

Assistive Robotics Laboratory | **Virginia Tech**

WEARABLE ROBOT FOR MOTION TRAINING

- Proposed a new approach to analyze how wearable robots drive the wearers' arms, leading to publications in [Scientific Reports](#) and [IEEE Access](#)
- Developed a lightweight (500 g), cheap (\$ 509), and low-profile exoskeleton as exhibited in [HardwareX](#)

UNDERGRADUATE RESEARCH ASSISTANT

May 2013 – Dec 2015

Dynamic System Laboratory | **NYU**

MODELING SMART MATERIALS

- Conducted impedance matching with inductor and resistors, to improve the power delivery by more than 60 % , as described in [Smart Materials and Structures](#)
- Carried out signal processing (system identification and impedance analysis) to find the surface resistance's effect, as represented in [J. of Intell Mater Syst Struct](#)