

HUBERT KIM

MECHATRONICS ENGINEER

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TECHNICAL SKILLS

Hardwares, Electronics

- PLC
- ARM Processor

Data Analysis

- MATLAB
- Python

Robot Programming

- RAPID - RobotStudio
- RobotDK

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 engineer 1) **deriving a manufacturing recipe** by integrating various custom End-Effectors with collaborative robots and 2) **navigating through the manufacturing challenges** in micro-mechatronics and micro-optics.

PROFESSIONAL EXPERIENCE

MECHATRONICS RESEARCH ENGINEER

Aug 2022 – Current

Mechanical Components and Systems Lab | GE Aerospace Research Center

PRODUCT LINE AUTOMATION

- Designed miniaturized end-effectors inspired by human hand behaviors in complicated manufacturing process
- Conducted hand-eye Robot calibration between industrial robots and 2D cameras (accuracy < 6 lp/mm)
- Programmed multi-robot navigation and path-planning for synchronized collaboration

INSPECTION SERVICE TOOL FOR A LIMITED SPACE

- Prototyped various robot design to solve the accessibility problem and structural rigidity requirement
- 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](#)