HUBERT KIM

MECHATRONICS ENGINEER

E-mail: jk.hubert.k@gmail.com

Mobile: 917.834.0377

Home: Albany, NY

LinkedIn: ~/hubertjkim

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 **method developer** for 1) improving **precision** for automation recipe through **error boundary control** and 2) increasing **operational safety margin** by implementing **evaluation methods** for early product development.

PROFESSIONAL EXPERIENCE

SYSTEM ENGINEER Aug 2022 – Current
Mechanical Components and Systems Lab | **GE Aerospace Research Center**

AUTOMATING MANUFACTURE PROCESS
- Developing 2D camera-based Calibration method for precision (accuracy and resolution)
- Controlled error boundary from the optical system (2.5 mil) to increase the ABB robot's factory resolution

INSPECTION SERVICE ROBOT, A LIMITED ACCESSABILITY
- Developing evlauation methods for early technology surveilance robot to solve the accessibility issue
- Increased Operational Safety Margin by evaluating various Minimal Vaiable Prototypes

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*