

# Jingkun (Allen) Liu

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Portfolio: [nu-jliu.github.io](https://nu-jliu.github.io)

## EDUCATION

### NORTHWESTERN UNIVERSITY

Sept 2023 - Present

#### Master of Science in Robotics

### ROSE-HULMAN INSTITUTE OF TECHNOLOGY

Sept 2018 - May 2022

#### Bachelor of Science in Mechanical Engineering and Computer Science

- Minor in Multidisciplinary Robotics
- Dynamics System and Controls Concentration
- Dean's List from Winter 2018-19 to Spring 2021-22
- Best Project Selection for Computer Architecture I
- Best Mechanical Engineering Sophomore Students

## EXPERIENCE

### DEKA RESEARCH AND DEVELOPMENT CO. - Manchester, NH

Jul 2022 - Jul 2023

#### Robotics Embedded Software Engineer (Jul 2022 - Jul 2023)

- Programmed in C++ on ROS melodic.
- Worked on the delivery and security robot.
- Developed and tested the firmware of a customized multi-channel modem.
- Wrote the ROS nodes to add new features

### ROSE-HULMAN VENTURE - Terre Haute, IN

Sep 2021 - May 2022

#### Software Engineer Intern

- Programmed in C# in backend and Typescript in front end using React.js framework.
- Used .NET framework and SQL as data storage.
- Worked on the website tracking the taxation of multiple counties in Indiana

### Institute of Computing Technology Chinese Academy of Sciences - Beijing, CN

Jun 2019 - Aug 2019

#### Research Assistant Intern

- Programmed in MATLAB to extract the object in each image.
- Helped collecting data about computer vision for image search engine.

## ACADEMIC PROJECTS

### Polyglot Bot

Oct 2023 - Dec 2023

- A system that reads in a text, translate it then wrote it out on a whiteboard.
- Programmed in Python on ROS2.
- Worked on the motion control of the Franka Panda arm to write the specified character on the write board.

### Feedback Control of KUKA youBot

Nov 2023

- Used the Copeliasim to simulate the motion of the KUKA youBot
- Implemented the feedback control to pick up a block in a world and place it at another place.
- Used the 5<sup>th</sup> order cartesian path to generate path from the start position to the goal.

### 16-bit Processor Design using Stack Architecture

Dec 2020

- Designed a multi-cycle 16-bit processor using stack architecture.
- Implemented the design through Xilinx ISE Design Suite, and programmed in FPGA board.
- Executed the realprime program within 40ms.

## ADDITIONAL

- Certifications: Dynamic Systems and Control Certification [Rose-Hulman]
- Technical Skills: R, C/C++/C#, ROS/ROS2, Java, JavaScript, TypeScript, HTML, CSS, XML, Swift, Storyboard, Kotlin, MATLAB, Simulink, Firebase, Node.js, React.js, Forth
- Language Skills: English (Business Professional), Mandarin (Native), Japanese (Elementary), German (Elementary)
- Work Authorization: China (Citizen), US (Full-time or Part-time OPT)