

# XIANGLI KONG

Brooklyn, NY | (704) 706-4099 | [lkong4528@gmail.com](mailto:lkong4528@gmail.com) | Portfolio: [lowinertia.com/portfolio/xianglikong](http://lowinertia.com/portfolio/xianglikong)

## EDUCATION

---

**New York University, Tandon School of Engineering**, Brooklyn, NY

*Expected Graduation Date: May 2026*

*Master of Science, Mechanical Engineering (GPA:3.7)*

**New York University, Tandon School of Engineering**, Brooklyn, NY

*September 2021-June 2025*

*Bachelor of Science, Mechanical Engineering (GPA:3.75)*

## TECHNICAL SKILLS

---

**Certifications:** EIT Certificate in NYS, CRLA II Certified Tutor

**Programming Languages:** C++, C, MATLAB, Python

**Tools and platforms:** MATLAB, MATLAB Simulink, SolidWorks, AutoCAD, Marlin, ANSYS, ANSYS CFD

**Engineering Skills:** Automation, product design, project plan / management, rapid prototyping, 3D printing, validation testing, programming, simulation, data acquisition and analysis.

**Languages:** English, Chinese

## WORK EXPERIENCE

---

### Robotic Engineer Intern

**Vision X, Remote, Los Angeles**

*October 2025 – January 2026*

- Developed motion planning algorithms in a warehouse automation project for a major retail client, enabling efficient pick-and-place operations for unpacking goods from boxes by leveraging ROS-based motion planning and simulation tools like Gazebo and Moveit to enhance real-world deployment accuracy.
- Optimized arm positioning accuracy by integrating ROS nodes with camera input and refining joint trajectories, which improved the robot's path generation speed in simulated environments by over 30%.

### Mechanical Engineer Intern

**C.Bechstein, Dresden, Germany**

*May 2024 – July 2024*

- Identified critical safety risk in grand piano lid supports through root cause analysis of frequent rod misplacement, then designed and implemented a stopper to ensure the correct 90° lid positioning, significantly reducing risk of lid collapse and enhancing user safety.
- Designed and manufactured a CNC iron mold for piano components using SolidWorks, incorporating Solidworks simulation to ensure machining accuracy, while considering injection molding constraints and maintaining surface draft angles above 3° to reduce failure risks.
- Modeled and engineered the piano's wooden frame in SolidWorks, delivering complete technical drawings to facilitate factory production.

## ACADEMIC PROJECTS

---

### Capstone Project, NYU

*August 2024 – Present*

- Led a 5-person team in designing, modeling, and implementing a fixed-wing VTOL drone, managing project timelines and task delegation.
- Performed aerodynamic analyses/calculations (motor selection, battery sizing, lift coefficient, wingspan optimization) and conducted CFD simulations in ANSYS to enhance flight efficiency and lift to drag ratio.
- Simulated PID control with step response in MATLAB and Simulink. Developed and implemented control systems for yaw, pitch, and roll stabilization using Arduino and C++, achieving stable 3-axis flight.
- 3D printed wing segments and assembled into drone frames. Conducted testing on drone performance, and successfully reaches testing expectations such as VTOL feature and performing 3-axis rotation.
- Integrated a mission planner and coordinated subsystem design, resulting in a successful proof-of-concept and earning Runner-Up Award among all capstone projects.

### Automated Syringe Filling Machine, NYU

*September 2025 - December 2025*

- Identified the challenge of manual syringe filling for at home medical users and designed a solution by modifying an Ender-3 3D printer; designed and 3D printed mechanical components to convert the motion system into an automated syringe filling mechanism.
- Designed the control system by modeling and simulating the actuator dynamics in MATLAB, then flashed and modified Marlin firmware to implement the controller and automated syringe filling process on the hardware. Integrated and tested the prototype, enabling fully automated syringe filling with one vial from 1-20 mL with 0.1 mL precision.