

Jacky Chen

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Education:

Rensselaer Polytechnic Institute (RPI) Troy, NY August 2022 – May 2025 (Expected)

Bachelor of Science in Mechanical Engineering, Dean's Honor List 2023, GPA: 3.71

Relevant Courses: Intro to Engineering Design, Engineering Process, Strengths of Materials, Thermodynamics, and Engineering Dynamics, Modeling and Control of Dynamic Systems, Element of Mechanical Design, Intro to Finite Elements, Fluid Mechanics

Skills:

Technical: Knowledge of C#. Proficient in Python, SolidWorks, Blender, NX, Swift, Swift UI, Reality Kit, Reality Composer Pro, Photogrammetry, NX Nastran, MATLAB, Unity, XCode, and Arduino IDE.

Other: Certified in HTML, CSS, and JavaScript for Web Development

Machinery: Lathe, Vertical Mill, Horizontal Mill, Drill Press, Polisher, Basic Plastic and Metal Welding.

Basic: C++, Laser cutting, 3D printing, Communication, Leadership, Microsoft Suite

Projects:

Anti-fluttering control system report, RPI - ([Wing Controller Report](#)) 8/2023 - 8/2023

- Used MATLAB's modeling a control system extension to create Bode, Root Locus, and Pole Zero plots
- Analyzed given graphs and Laplace transform to determine the velocity when fluttering occurs and the sensor transfer function, which is applied in aeroelastic motion equation, with given coefficients, to determine the wing transfer function. Using the transfer function to develop a controller to minimize settling time and angle of the wing

Simulating Failure Due to Strain & Stress, RPI 5/2023 – 8/2023

- Used NX Nastran and NX to design and simulate failure due to stress from distributed or applied loads
- For simpler 2D representations, matrices were used to hand calculate the displacement and unknown reaction force

Art Instillation Robot, Robotic Clubs 3/2023 - Current

- A robotic device that senses motion to initiate motors to fold a 3D printed origami fabric. Currently, the device is still in the prototype stage, we are testing and adjusting the dimensions of the units.

RoboGrow, RPI - [Robo Grow Website \(unhelpfulbot.github.io\)](#) 2/2023 - 4/2023

- Helped with designing the cart and track with teammates using Nx and operated the laser cutter to cut the part.
- Created the code for the Arduino board to take data from the sensor and operate based on the conditions with teammates.
- Designed the RoboGrow website using: JQuery, JSON, HTML, CSS, and JavaScript

Website Project, Personal - 9/2022 - 5/2023

- Created websites using technical skills: HTML, CSS, JavaScript, JQuery, and JSON
- My first personal website was created to test different features: <https://unhelpfulbot.github.io/Website/MyWebsite.html>
- My second personal website included more advanced features: [Jacky's Website \(unhelpfulbot.github.io\)](#)

Experience:

Computer Vision & Robotic Arm Research, RPI 10/2023 – Current

- Research existing software for computer vision like Photogrammetry, NeRRF, Gaussian Splatting
- Generate measurable dimensions for robotic arms to complete tasks accurately.
- Test environments for different types of camera/sensors to determine possible restrictions.

Innovation and Research Intern at BMW, Greenville SC 8/2023 – Current

- Pre-testing and research on the Apple's Vision Pro through Xcode through application development

Mechanic Apprentice, Greenville SC 9/2023 – Current

- Volunteer at a mechanic shop to gain hands on experience to understand vehicles parts' functionality

GOESR Hackathon, Virtual - <https://www.goes-r.gov/users/hackathon.html> 9/2021 - 9/2021

- In a team of four, collaborated to create an application that converted a 2D satellite image into a 3D model