YUXIN HU

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EDUCATION

Rensselaer Polytechnic Institute *Troy, NY, US* *Aug 2018 - May 2022*
Bachelor of Science **Major:** Mechanical Engineering
Cumulative GPA: 3.82 / 4.00 **Minor:** Computer Science
Honors and Awards: Dean's List in three consecutive years

Nanzan University *Nagoya, JP* *Jan 2021 - May 2021*
Exchange Language Program (Online), Center of Japanese Studies
Semester GPA: 3.87 / 4.00

INTERSHIP

GE Healthcare Shanghai Co., Ltd. *Shanghai, CN* *Jul 2021 - Aug 2021*
Intern, Division of Manufacturing
Production Line Improvement
- Implemented automatic configuration setting on packaging machinery for different material flow and bottle specifications
- Set up automatic shutdown in case unsolvable error occurs by Industrial PLC programming
- Drew the Line C electrical wiring diagram to help maintenance personnel locate errors more rapidly and accurately
- Developed a power usage monitoring system including system hardware and software design, assembly, and onsite testing that helps eliminate the risks of massive scrapping due to contingent system malfunctioning

Information System Development
- Designed a Python scraper that can automatically capture the data from the company's production system, output it to the management system, and realize visualization through data cleaning and interpretation
- Participated in the bidding of three suppliers and evaluated their qualification through field visits

Evaluation of Suppliers' Schemes
- Analyzed the user requirement specification and investigated the efficiency of the existing production line
- Participated in the bidding of three suppliers and evaluated their qualification through field visits
- Analyzed quantitatively the transformation schemes of Line D provided by three suppliers, and gave feedback from the perspectives of quotation, materials, design rationality, benefit, flexibility, and expected cost cut down, etc.

Shanghai Aircraft Customer Service Co., Ltd, *Shanghai, CN* *May 2021 - Jun 2021*
Intern, Institute of Operation Support Technology
- Supported designing and developing the thru flight check and maintenance IoT devices; Collected the aircraft damage samples and images for the future research with machine learning models
- Developed independently a useful tool with Python that helps estimate the flight cost of various aircrafts, with features such as cost comparison among different aircrafts, load planning and visualization
- Assisted in the establishment of the IoT device lab and Cloud computing center, and proposed an equipment list based on the R&D strategy of the company

Yaskawa Shougang Robot Co.,Ltd. *Shanghai, CN* *May 2019 – Jun 2019*
Intern, Test Engineering
- Learned the hardware and software mechanism of industrial robot arms control, including PLC, robot teaching, etc
- Supported professional engineers to build an automobile chassis welding assembly line, using Yaskawa robot arms

PROJECTS (SELECTED)

Computer Vision Based Automatic Parking System *Troy, NY, US* *Fall 2021 Semester*
Class project of Robotics
- Worked on a differential wheel ROS robot that could park itself with computer-vision based guidance
- Took charge of the Visual subsystem, including parking lot recognition and path finding algorithm

Rhythm Game Robot *Troy, NY, US* *Dec 2020 – Aug 2021*
Independent Project
- Worked on a robot that automatically plays the rhythm game
- Used cameras and OpenCV to allow the master computer to recognize moving objects and send commands to the lower computer via Serial connection

Transportation Challenge *Troy, NY, US* *Summer 2020 Semester*
Class Project of Intro to Engineering Design
- Figured out an optimal transportation scheme that could help a transportation company deliver medical supplies via truck from Port of San Diego to Albany Medical Center with minimal travel time and maximal supply amount
- Studied the thermal efficiency and payload correction coefficients of the truck model Ford T150 drivetrain system at different speeds to provide reference for the establishment of mathematical models
- Searched for relevant papers and mathematical models, and established a model of an ideal environment ignoring the weather, driver needs, and Trucking Rules and Regulations with Python and Numpy
- Plotted different speeds, weights, corresponding available load capacity and vehicle speeds with Matplot, found the schemes of fastest delivery and maximum load respectively

"The Wellness System"–Smart Home Monitoring System *Troy, NY, US* *Summer 2020 Semester*
Class Project of Intro to Engineering Design
- Designed the central controlling sub-system of an integrated IOT system that monitors and improves the indoor environment, including air filtering, indoor light control, and automatic air conditioning control
- Built a functioning demo using Arduino, with a user interface displaying system status, which also supports remote control by phone app via internet

Data Structure Course Projects (Conducted in C++) *Troy, NY, US* *Fall 2019 Semester*
- **Recursive Bridges:** programmed a puzzle solver that outstood the whole section with best efficiency
- **Bounding Volume Hierarchy Tree:** implemented the most common used data structure for computational
- **Priority Queues for Mesh Simplification:** implemented a program that performs edge collapse and vertex clustering to simplify the Mesh at minimal cost with Priority Queues
- **Constellation Hash Table:** designed a program that recognizes constellation in the input image with an optimized hash function

EXTRACURRICULAR ACTIVITIES

ASME student Club at RPI *Troy, NY, US* *Mar. 2019 – present*
Student Member
- Participated as a member of robot team that aimed at winning in the national competition held by ASME (American Society of Mechanical Engineers)
- Took charge of 3D printing works; Collaborated with school's rapid prototyping club to process our order and designed a hollow pattern that helps reduce printing time and cost at minimum impact to part's strength.

SKILLS

Languages:	English, Mandarin, Japanese(Beginner)
Programming:	R, C++, C#, C, Matlab, MIPS, Python, Arduino, STM32, ROS, Unity, LaTeX
Software & Tools:	Mathematical Modeling, Engineering Simulations, Prototype Machining, 3D Printing (SLA/FDM), AutoCAD / SolidWorks / Siemens NX, Control System Engineering, Matlab Simulink, Finite Element Analysis