

Rongqian Will Chen

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Education

George Washington University (GW)

PhD in Electrical Engineering

University of Pennsylvania (UPenn)

MSE in Electrical Engineering, GPA: 3.81/4.0

Southwest Jiaotong University (SWJTU)

BEng in Automation, GPA: 3.45/4.0

Washington, D.C., US

Sept. 2024 – Now

Philadelphia, US

Sept. 2021 – May 2023

Chengdu, China

Sept. 2017 – Jun. 2021

Skills

Mathematical Tools Mathematica, Matlab

Design and Simulation SolidWorks, Ansys, Unity, PSIM

Hardware Development Altium Designer, Keil, Proteus, CCStudio

Embedded Systems Linux, Raspberry Pi, Arduino, STM32, FPGA, DSP

Programming Languages Python, C, C++, C#, Verilog, HTML

Experience

AI Lab at GWU

Leader, Master's Thesis: *Pneumatic Legged Hopping Robot*

- Modeled and fabricated tunable-stiffness pneumatic actuators with a 143% stiffness adjustment range.
- Designed a legged robot using Raspberry Pi and ESP32 for control and communication.
- Developed energy-saving strategies, achieving a 29.3% energy loss reduction.

Washington D.C., US

Sept. 2022 – July 2024

General Robotics, Automation, Sensing, & Perception (GRASP) Lab at UPenn

Leader, Master's Thesis: *Pneumatic Legged Hopping Robot*

- Modeled and fabricated tunable-stiffness pneumatic actuators with a 143% stiffness adjustment range.
- Designed a legged robot using Raspberry Pi and ESP32 for control and communication.
- Developed energy-saving strategies, achieving a 29.3% energy loss reduction.

Philadelphia, US

Sept. 2022 – July 2024

Intelligent System Lab at SWJTU

Leader, Master's Thesis: *Pneumatic Legged Hopping Robot*

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- Designed a legged robot using Raspberry Pi and ESP32 for control and communication.
- Developed energy-saving strategies, achieving a 29.3% energy loss reduction.

Chengdu, China

Sept. 2022 – July 2024

Power Conversion and Control Lab at SWJTU

Leader, Master's Thesis: *Pneumatic Legged Hopping Robot*

- Modeled and fabricated tunable-stiffness pneumatic actuators with a 143% stiffness adjustment range.
- Designed a legged robot using Raspberry Pi and ESP32 for control and communication.
- Developed energy-saving strategies, achieving a 29.3% energy loss reduction.

Chengdu, China

Sept. 2022 – July 2024

Publications

- **Rongqian Chen**, Jun Kwon, Kefan Wu, Wei-Hsi Chen. Tunable Stiffness for Energy-Efficient Vertical Hopping in a Monopedal Robot Across Varying Ground Profiles. *ICRA 2025*.
- **Rongqian Chen**, Jun Kwon, Wei-Hsi Chen, Cynthia Sung. Design and Characterization of a Pneumatic Tunable-Stiffness Bellows Actuator. *RoboSoft 2024*.
- Shivangi Misera, Mason Mitchell, **Rongqian Chen**, Cynthia Sung. Design and Control of a Tunable-Stiffness Coiled-Spring Actuator. *ICRA 2023*.
- **Rongqian Chen**, Yingquan Zou, Anyong Gao, Leshi Chen. A Cluster-Based Weighted Feature Similarity Moving Target Tracking Algorithm for Automotive FMCW Radar. *VTC 2022-Spring*.
- Ping Yang, Xi Chen, **Rongqian Chen**, et al. Stability Improvement of Pulse Power Supply. *IEEE JETCAS, 2021*.