

# Yu-Hsi “Issy” Tsai

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Motivated electrical and computer engineering student with experience in embedded systems, signal processing, and machine learning. Seeking an internship for Summer 2026.

## EDUCATION

**Rice University**, George R. Brown School of Engineering and Computing  
*Bachelor of Science in Electrical and Computer Engineering*  
*with Minor in Engineering Design*

Houston, TX  
Expected May 2028  
GPA: 3.97/4.00

Relevant Coursework:

## SKILLS

**Programming Languages:** C++, Python, MATLAB, Verilog  
**Design Software:** SolidWorks, OnShape, KiCAD, Figma, Microsoft Office  
**Languages & Soft Skills:** English, Mandarin, Communication, Problem-Solving, Teamwork

## PROJECTS

### Navigation Assist Device for Blind Dog

Aug 2024 - Present

*Team Kunde's Friends, Rice University*

- Developed obstacle alert device as navigation aid for blind dog in student team
- Programmed, constructed schematic, and soldered electronics providing LiDAR data to user via Arduino controlled variable vibration motors
- Used Python OpenCV to produce depth maps from stereo images
- Modeled electronics and power system housing in OnShape

### Noise Pollution Tracking Camera System

May 2022 - Feb 2024

*Academia Sinica*

- Devised novel solution for reducing noise pollution from modified vehicles
- Developed low-cost camera system automatically tracking sound source in Python
- Implemented object detection algorithm (YOLOv8) to identify noise pollutants
- Finalist at Taiwan International Science Fair 2024

### NaviGlance Indoor Navigator

Sept 2024

*Team NaviGlance, HackRice 14*

- Collaborated in team of 4 to develop indoor navigation tool for complex campuses
- Constructed graph representation of building floor plans in path-finding algorithm
- Designed user-friendly application interface in Figma
- Implemented secure user authentication with auth0 in Python

## EXPERIENCE

### COMP 140 Teaching Assistant

Houston, TX

*Rice University*

Aug 2025 - Present

- Held office hours and answered student's questions
- Graded homework and exams

### Undergraduate Researcher

Houston, TX

*Rice University*

Mar 2025 - Present

- Performing code development and resolution testing on state-of-the-art imaging THz synthetic aperture radar, achieving millimeter resolution

### Volunteer English Docent

Taipei City, Taiwan

*National Taiwan Museum*

Sept 2023 - Aug 2024

- Led museum tours for 200+ visitors facilitating cross-cultural understanding
- Seminar speaker on topic "Cultural Preservation in High Schools"
- Selected to lead tour for attendees of 2023 ICOM COMCOL Conference