

Yu-Hsi (Issy) Tsai

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EDUCATION

Rice University , George R. Brown School of Engineering and Computing Bachelor of Science in Electrical and Computer Engineering with Minor in Engineering Design Relevant Coursework: Digital Design, Program Design, Engineering Design, Signals & Systems	Houston, TX Expected May 2028 GPA: 3.97/4.00
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SKILLS

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

PROJECTS

Navigation Assist Device for Blind Dogs <i>Team Kunde's Friends, Rice University</i> <ul style="list-style-type: none">Engineered a wearable navigation vest for a blind dog Kunde, enhancing safety and interaction by minimizing collisions and overcoming limitations of traditional solutions.Executed full-cycle prototype development with Arduino Nano, from circuit design and embedded programming to soldering and assembly.Designed a vibration motor control PCB in KiCAD and developed its software interface, achieving reliable hardware–software integration.Featured in Rice News, MSN, Axios, and other news outlets for innovative contribution to pet disability accessibility aids.	Aug. 2024 – May 2025
Noise Pollution Tracking Camera System <i>Academia Sinica, Taiwan</i> <ul style="list-style-type: none">Built a Python-based camera system utilizing audio localization, enabling automatic sound-source detection with low-cost hardware.Implemented YOLO object detection algorithms to automatically identify noise pollutants, improving accuracy and eliminating time-intensive manual processes.Finalist at Taiwan International Science Fair 2024.	May 2022 – Feb. 2024
NaviGlance Indoor Navigator <i>Team NaviGlance, HackRice 14</i> <ul style="list-style-type: none">Developed a functional indoor navigation application within 36 hours, enabling users to seamlessly locate specific rooms or events.Constructed graph representation of building floor plan.Implemented user authentication in Python with auth0.Designed application interface with Figma.	Sept. 2024
Undergraduate Researcher <i>Everitt Lab, Rice University</i> <ul style="list-style-type: none">Performing resolution testing on state-of-the-art imaging THz synthetic aperture radar, achieving millimeter resolution and validating performance.Compiled detailed user guide for THz SAR, streamlining onboarding and enabling new researchers to operate complex instrumentation with reduced training time.	Houston, TX Mar. 2025 – Present
COMP 140 Teaching Assistant <i>Computer Science Department, Rice University</i> <ul style="list-style-type: none">Support 250+ students in Rice COMP 140, clarifying core programming concepts during office hours to enhance understanding, problem-solving, and overall course performance.	Houston, TX Aug 2025 - Present
Machine Learning Intern <i>Industrial Technology Research Institute, Taiwan</i> <ul style="list-style-type: none">Automated image label reformatting in Python and managed quality control for a 3,000+ image training dataset, improving efficiency and dataset reliability.	Remote Aug 2023 - Sep 2023