

Alex S. Huang

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EDUCATION

- ◆ **University of Texas at Dallas, Erik Jonsson School of Engineering** **Expected 05/2029**
Bachelor of Science in Electrical Engineering
- Cumulative GPA: 4.0/4.0 | Hobson Wildenthal Honors College

EXPERIENCE

- ◆ **University of Texas at Dallas | Richardson, TX** **08/2025 – Present**
◇ **Intelligent Robotics and Vision Lab, Robotics Research Assistant**
- Fine-tuning bimanual **Koch v1.1** robot-vision pipeline for teleoperation and imitation learning of assistive tasks.
 - Utilizing **Open-X** & **LeRobot** datasets to increase **VLA** (Vision-Language-Action) policy success rate **up to 40%**.
- ◆ **Arizona State University | Tempe, AZ** **06/2024 – 07/2025**
◇ **Sun Robotics Lab, Intelligent Robot Dynamics & Actuators Intern** *09/2024 – 08/2025*
- Engineered **image segmentation** & reinforcement-learning pipeline of finger-angle estimation for robotic hand teleoperation using **DeepLabV3**, **MobileNetV2**, and **openCV** in **Python**, **reducing costs by 90%** vs. existing solutions.
 - Refined robotic hand, adding extra thumb DOF with custom CAD, soldering and servo-spring modifications.
 - Presented paper at the **2025 IEEE ICEET conference**, will be published into IEEE Xplore.
- ◇ **Security Engineering for Computing Lab, Cybersecurity/SWE Intern** *06/2024 – 08/2024*
- Built SmishSmashing, a GPT4-powered **Python** app designed to counteract smishing attacks; integrates **Twilio** for SMS parsing, **MongoDB** for storage, and **AWS EC2** for deployment. **Optimized detection-to-response time to <5s**.
- ◆ **Stanford University | Palo Alto, CA** **05/2024 – 08/2024**
◇ **Stanford Compression Forum (SCF), STEM2STEM Summer Research Intern**
- Selected as **1 of 30 high school students worldwide** to partake in STEM/AI research with Stanford professors.
 - Co-authored paper on **prompt engineering** that improved **LLM decision-making by 80%** w/ **Prof. Ben Roy**.
- ◆ **Taiwan Overseas Community Affairs Council | Nantou, Taiwan** **07/2023 – 08/2023**
◇ **English Teaching Service Program for Overseas Youth, English Teacher/Volunteer**
- Drafted & taught **4 weeks** of bilingual, hands-on English, STEM & arts curricula in a team of 6 at a rural school.

ACTIVITIES

- ◆ **Institute of Electrical and Electronics Engineers (IEEE) - UTD Chapter** **09/2025 – Present**
Solid-State Circuit Society (SCSS)
- Learning basic **CMOS VLSI design** to fabricate traffic light microcontrollers using **Cadence Virtuoso**.
- ◆ **Accessible Prosthetics Initiative - UTD Chapter** **08/2025 – Present**
Electronic Arm Team Member
- Utilizing **KiCAD** and **Multisim** to prototype robotic arm PCB and custom EMG signal-processing device for **50%+ performance from last year** with the electronics team for the 2025 Dallas Abilities Expo.
- ◆ **Robotics - Hamilton High Microbots Team 698** **08/2021 – 05/2025**
Head of Marketing Operations, Secretary, Mechanic
- Fundraised **\$15,000+** w/ marketing team annually. Collaboratively **design & assemble** cost-efficient robots.

SKILLS & INTERESTS

Programming: Python, C++, HTML, MATLAB, Bash
Software Tools: GitHub, API integration, MongoDB, AWS, Python machine learning, Canva, MS/Google Suite
Hardware: Shop tools, soldering, Arduino/ESP32, 3D printing, CAD (OnShape), PCB design (KiCAD/Altium).
Languages: English (native), Mandarin (native), Spanish

Interests: Robotics, PC building, chamber music, national parks, cooking, fantasy football, pickleball, weight training

AWARDS & HONORS

- ◆ ISEF International Finalist & AzSEF Best of Fair **04/2025**
- ◆ Chandler School District IMPACT (\$1000) Scholarship **03/2025**
- ◆ UT Dallas full-ride National Merit Scholarship Recipient **02/2025**
- ◆ InnerView Service Ambassador Award (300+hrs) **12/2024**
- ◆ AzSEF (Arizona Science & Engineering Fair) 2nd Place **04/2024**