ZEB WEILAND

San Antonio, TX, | (512)-790-8679 |zeb@weiland.net | www.linkedin.com/in/zeb-weiland | https://zebweiland.github.io/website-portfolio/

EDUCATION

The University of Texas at San Antonio San Antonio, TX

- Bachelor of Engineering in **Electrical Engineering** in **Honors** – GPA: **3.82** *May 2027 (Expected)*
- Member of **UTSA EPICs** *May 2024 - Aug 2025*
- Member of **UTSA Lunabotics Team** *Aug 2025 - Present*
- **Relevant Coursework**: Math in signals and systems, Electromagnetic Engineering, Logic Design, Network Theory, Electric Devices, Electric Circuits I, Microcomputer Systems I, Computer Programming, and Engineering Analysis I & II.

PROJECTS

Real-Time Voice Captioning and Translation System Spring 2025

- Designed a real time voice and translating system using a **PIC16F1829 microcontroller** and **Python** speech recognition
- Developed a speech-to-text system in **Python** to take audio input to convert to text and translate in order to send formatted captions to an **LCD** display via PIC.

Color Sorting Conveyor Belt System Spring 2024

- Collaborated in a team to design and build an automatic color-sorting conveyor belt using **Arduino, stepper motors, and a color detector module**.
- Troubleshot and optimized **Arduino** code for reliable motor control and sensor accuracy, ensuring smooth system operation.
- Applied **3D design** skills to create custom mechanical parts, integrating electronics and hardware into a functional prototype.

ALS Robotic Arm Spring 2025

- Worked with a group of 3 students to design and build a robotic arm lift for people with **ALS** for them to be able to lift their arms up on their own.
- Using a **linear actuator** and a **mechanical scissor lifting design** we were able to make a device that can hold over **20 pounds.**
- Applied **3D design** skills to create custom mechanical scissor lifting parts that were attached to the linear actuator.

Battle Bot Spring 2024

- Worked with a group of 3 other students to build a battle bot with a **robotic arm, a defensive shield, and a laser blaster**
- Getting inspiration from forklifts to be able to list hundreds of pounds, I designed our robot to have a forklift-like arm in order to lift other bots.
- Applied **3D design** skills to build robotic arms and the bots defensive shield all within the battle bot size restrictions.
- Battle Bot was powered by a **Raspberry-Pi** microcontroller which was coded in **Python** to be able to use a **Bluetooth remote control**

EXPERIENCE

Tutor at The University of Texas at San Antonio 2024-Present

Peer Educador, San Antonio TX

- Provided one-on-one **tutoring/mentorship** to over **100+** students in fundamentals of **STEM** courses.
- Helped students enrolled in courses like **Calculus, Physics, Chemistry, Programming, and Circuits** courses.
- Increased students test and overall course grades by an average of **20-30%** compared to students who did not attend tutoring.

SKILLS

- **Technical Skills:** C, C++, Python, MATLAB, Arduino, Multisim, CAD, Raspberry-pi, Assembly, SolidWorks, Pspice, HTML
- **Business Skills:** Technical Communication, Team Collaboration Skills, Project Management, Mentorship
- **Awards:** Freshman EPICS Semester Project Competition 1st Place, Microcomputer Systems Final Project 3rd Place, Dean's List