Yusuf Ali

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EDUCATION

Texas A&M University **May 2026**

Bachelor of Science in Computer Science; Neuroscience Minor *College Station, TX*

- **Involvements:** Aggies Create (Team Lead), Student Engineers' Council (EnVision Conference Co-Chair)
- **Coursework:** Program Design, Data Structures & Algorithms, Discrete Structures, Computer Organization

EXPERIENCE

Curriculum Developer & Instructor **March 2022 – Present**

LearnToBot *The Woodlands, TX*

- Teaching over 100 students how to build and code problem-solving robots in weekly camps.
- Designing and testing software/hardware projects for future camps and classes.
- Hosting robotics camps for *Destination Imagination* teams in our community.
    - Our *Destination Imagination* team placed 3rd in the Global Finals 2023 competition.

Administrative Assistant **January 2021 – Present**

Muse Mantra School of Music & Arts *The Woodlands, TX*

- Assisted in developing the school website (www.musemantra.com) and integrated the student registration form through Google Apps Script.
- Building a web application with the DW Spectrum & Pike13 APIs to streamline the student registration process.
- Organizing quarterly audits of the school database to analyze student enrollment and retention.

Robotic Surgery Intern **June 2022 – July 2022**

Laredo Sports Medicine Clinic *Laredo, TX*

- Developed machine learning algorithms for *Stryker Mako* surgical machines and worked with departments in the clinic including research and development, physical training, and marketing.
- Met with professionals involved in the biotechnology industry from Texas A&M International University.

PROJECTS

Brain-Controlled E-Wheelchair | *EMOTIV, OpenBCI, Python, Arduino, Soldering* **August 2024 – Present**

Objective: Develop a brain-computer interface system to control an e-wheelchair using thoughts as commands.

- Disassembled an e-wheelchair controller and soldered its test points to an Arduino Nano.
- Trained mental commands using an EMOTIV headset and converted them to inputs for movement.
- Presented our prototype at the Aggies Create Innovation Expo and placed 1st.

Nixie Tube Watch | *C++, C, PCB Design, Soldering* **June 2023 – January 2024**

Objective: Build an analog watch from scratch using cathode ray Nixie tubes from the 1950s.

- Designed printed circuit boards to keep the form factor of the watch as compact as possible.
- Created a Qi standard charging module for the watch to charge wirelessly.
- Built the watch case using resin and CNC-cut glass.
- Programmed the time functions of the watch in C.

TECHNICAL SKILLS

- **Languages:** Python, Java, C/C++, C#, HTML/CSS, JavaScript
- **Development Tools:** VS Code, PyCharm, AutoCAD, KiCad, Blender, Ableton
- **Libraries:** Pandas, BeautifulSoup, NumPy, Matplotlib, TensorFlow, scikit-learn
- **Awards:** Aggies Create Innovation Expo Winner, UT Austin Computer Science Robotics Champion, NHSMUN Award of Distinction