CHARLES TEJANO

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SUMMARY

- Rising Junior in Electrical Engineering with a focus on Embedded Systems and Instrumentation. Hands-on experience building Arduino prototypes, collecting sensor data, and documenting test results with Excel. Known for safe, procedure-driven work and attention to detail; available for full-time/weekend shift.

EDUCATION

University of St. Thomas **St. Paul, MN**
B.S., Electrical Engineering Expected – May, 2028
Minor - Business Administration

Anoka-Ramsey Community College **Coon Rapids, MN**
A.A., Liberal Arts Conferred – August, 2025

- **Relevant Coursework–**C/C++ fundamentals, Calculus I-II, Physics II, Differential Equations + Linear Algebra, Multivariable Calculus, Digital Logic
- **Courses in progress**–Circuits I, Discrete Structures, Microprocessor Applications

TECHNICAL SKILLS & CERTIFICATIONS

Programming: C/C++, Python, VHDL, HTML/CSS, JavaScript
Tools: Arduino microcontrollers, oscilloscope (phase shift/amplitude measurements), digital multimeter (basic measurement - ohms/volts)
Lab/Testing: Data logging, test documentation, basic instrumentation, safety compliance
Certifications: Bilingual Seal (Spanish) – Minnesota Dept. of Education (verified via Avant)

ENGINEERING PROJECTS

Student Profile Hub - Personal Project | HTML/CSS/JavaScript **January, 2026**

- Building a responsive website to showcase engineering projects and document builds, by developing reusable HTML/CSS components and implementing mobile-first layouts.
- Repeatedly review and refine HTML and JavaScript code (5+ iterations) to guarantee the structural integrity and aesthetic design meet all expectations.

Water Quality Monitor - Personal Project | Arduino/C++ **December, 2025 – In Progress**

- Building an Arduino-based water quality monitor that classifies turbidity as Clear/Cloudy/Unsafe, by integrating an analog turbidity probe + LCD and calibrating threshold ranges from sample readings.
- Improved signal reliability–reduced noise/short-risk in dense layout by routing power + sensor + I/O with functional grouping across 16 GPIO connections and separating high/low-noise paths.
- Increased build maintainability and troubleshooting speed by implementing dedicated power rails + consistent wiring standards, keeping the prototype organized and repeatable for future revisions.

Digital Sensor Fusion System - Personal Project | Arduino/C++ **December, 2025**

- Developed a real-time multi-sensor system on an Arduino Uno to measure distance + temperature/humidity, by fusing HC-SR04 + DHT11 sensor inputs in C++ and outputting synchronized readings over Serial Monitor.
- Validated sensor operating range and stability by running repeated motion-change trials and documenting consistent readings up to sensor's usable range up to ~400cm, then logging results for analysis.
- Converted raw serial logs into analyzable datasets by parsing delimited data in Excel, exporting CSVs, and plotting distance vs. time to visualize trends and measurement behavior.

4-to-1 line Multiplexer - Digital Logic | EDA Playground/VHDL **November, 2025**

- Implemented a 4:1 MUX in VHDL using case statements to route a selected input to a single output, achieving correct logic behavior across all select states.
- Verified functional correctness by building a VHDL testbench that iterated 00/01/10/11 with controlled patterns and confirming outputs via waveform inspection (EPWave).

EXPERIENCE

Lowe's Companies, Inc. **Blaine, MN**
Front-End Loader May, 2025 – January, 2026

- Execute material-handling operations for heavy inventory–appliances + landscaping materials while maintaining 100% adherence to safety protocols, by following standard procedures and conducting hazard-aware loading practices.
- Reduced customer wait time by ~20% during peak season–May-June by implementing faster loading workflows and staging high-demand items, while safely transferring 40+ unit loads for 8-11 contractors per shift.