

MAX MOYLE

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Education

Science Academy of South Texas

High School Diploma

Rank 2/210 | ACT 36 | National Merit Semifinalist

Aug. 2023 – May 2027

Mercedes, TX

University of Texas Rio Grande Valley

Dual Enrollment; GPA 4.00/4.00 (15 courses)

June 2025 – Apr. 2027

Edinburg, TX

MathILy, Bryn Mawr College

Selective (~7% admitted) residential program in inquiry-based, proof-based mathematics

Summer 2026

Bryn Mawr, PA

Texas State Technical College

Certificate in Computer Programming (Java Developer); completed Apr. 2025, conferred with diploma

Sept. 2023 – Apr. 2025

Waco, TX

Research & Experience

University of Texas Rio Grande Valley

Student Researcher, Dept. of Mathematics and Statistics; advisor: Dr. Andrew Alaniz

Oct. 2025 – Present

Edinburg, TX

- Co-proved the odd case of a 2013 conjecture on cubic dissection matrices; now co-writing the team's full proof
- Helped reduce the proof to symmetric powers of a 2×2 matrix; used a roots-of-unity filter for exponent and sign
- Wrote Python tools to compute the matrices; checked the even-case formula computationally through degree 34

Practicum in Applied Engineering

Team Lead, Client Engineering Projects (Aug. 2025 – Oct. 2026)

Aug. 2025 – Present

Mercedes, TX

- Led a 3-person team prototyping an AR sand table for NerdVana, an education startup; modeled its sand drainage
- Delivered a modular Astro + Keystatic skeleton, finished homepage, and docs for NerdVana's new site in one month
- Directed a 4-person team maintaining the City of Progreso's WordPress site and prototyping a React redesign

University of Texas at Austin, Learning Directed Operating Systems Lab

Student, Summer Academy for All: Machine Learning Edition

Summer 2026

Austin, TX

- Built a scikit-learn classifier predicting I/O latency within a sub-100 ns inference budget
- Identified a data-leakage bug inflating accuracy in the lab's research notebook; researchers adopted the fix

Projects

Heatwave: heat-aware navigation app | *Python, OSMnx, GeoPandas, rioxarray, Node.js*

Sep. 2025 – Present

- Built a heat-aware walking-navigation app as sole developer; won District TX-34's Congressional App Challenge
- Designed a routing model that scores heat exposure from free national weather, sun-angle, and tree-canopy data
- Implemented custom Dijkstra routing on OpenStreetMap with R-tree snapping; 10,000+ routes generated nationwide

NASA HUNCH: student engineering program | *TypeScript, React, Node.js, PostgreSQL, Python*

Aug. 2025 – Present

- Led a 3-person team building an RFID check-in/check-out inventory system for long-duration deep-space missions
- Wrote the React/TypeScript client, Node.js API, and PostgreSQL schema; team named one of two national finalists
- Now leading a team on lunar-robot failure prediction; designed the architecture, 17 data schemas, and dashboard

Fall-Risk Balance Platform: Project Lead The Way engineering capstone

Aug. 2026 – Present

- Heading research and mathematical modeling for a low-cost computerized dynamic posturography system
- Designing an instrumented platform that perturbs balance to measure fall risk; working prototype due April 2027

Technical Skills

Languages: Python, TypeScript, JavaScript, SQL, Java, C, C++, Bash, HTML/CSS, LaTeX

Libraries & Frameworks: pandas, NumPy, scikit-learn, GeoPandas, OSMnx, React, Node.js, Astro

Tools & Platforms: Git/GitHub, PostgreSQL, Docker, Linux, WordPress, Keystatic, Vite, JSON Schema, OpenAPI

Leadership & Activities

Mu Alpha Theta, Mathematics Honor Society

Vice President (2026–27); Treasurer (2025–26)

Aug. 2023 – Present

Mercedes, TX

- Grew membership about threefold in one year; co-created the school's annual Differentiation and Integration Bees
- Design a year-long, 16-meeting curriculum and give biweekly lectures; plan and raise funds for competition trips

Peer Study Community

Founder & Lead Tutor; 40+ member group (calculus, physics, history, CS)

Aug. 2023 – May 2025

Mercedes, TX

Service: Weekly tutoring for middle-school students; 30+ hours of outreach with Voices for Democracy RGV