Aldus Verastegui

College Station, TX | (210) 421-3101 | aldusv@tamu.edu
github.com/aldusv

Research Interests

Computational and experimental nuclear astrophysics; resonance phenomenology (*Breit–Wigner* line shapes); detector response modeling; Monte-Carlo uncertainty propagation and comparison; scientific computing (Python/NumPy/SciPy); instrumentation and data acquisition; public engagement in physics.

Education

- **Texas A&M University** — College Station, TX
  B.S. in Physics — *Expected Fall 2027*

Appointments & Research Experience

- **Texas A&M University Cyclotron Institute** — College Station, TX
  Undergraduate Research Assistant (Advisor: Prof. Philip Adsley) — *February 2025 – Present*
  - Modeled **Breit–Wigner** resonance line shapes and performed numerical experiments in Python to study parameter sensitivity and fit stability.
  - Analyzed and visualized decay spectra (NumPy/SciPy/Matplotlib); validated against analytical limits and references.
  - Collaborated on linking nuclear structure observables to simulated detector responses.

Grants, Fellowships & Awards

- **Texas A&M University** — College Station, TX
  Wright Research Fellowship — *July 2025*
  - Undergraduate research fellowship recognizing potential in physics and astronomy research.

Publications & Preprints

None yet.

Talks & Posters

- **Aldus Verastegui**, *Itty Bitty Radio Telescope, Radio Astronomy.* Poster/demo, Texas A&M Physics & Engineering Festival, College Station, TX, 2025.
- **Aldus Verastegui**, *Time Complexity of Algorithms.* Presentation, Texas A&M Directed Reading Program, College Station, TX, 2022.

Teaching & Mentoring

- Directed Reading Program (Participant), Texas A&M University, Spring 2022. Presented final talk on mathematical logic for CS and formal reasoning.

Projects & Instrumentation

- **DIY Radio Telescope** — Texas A&M University
  Discover, Explore & Enjoy Physics Program — *January 2025 – Present*
  - Constructed a small radio telescope from a satellite TV dish; designed an analog interface and routed signal to laptop audio for acquisition.
  - Developed Python tooling for real-time visualization and basic analysis; authored a public-facing poster.

Professional Experience

- **Texas A&M Provost I.T. Office** — College Station, TX
  Student Technician — *October 2021 – October 2022*
  - Resolved hardware/OS/network issues for faculty and staff; documented resolutions and escalations.
  - Deployed and configured devices; supported access management per university policy.

- **IDEA Public Schools** — San Antonio, TX
  National Special Programs Intern — *June 2022 – August 2022*
  - Developed a website using reusable templates; automated reporting with Excel/VBA.
  - Built a workflow to transfer PDF language-proficiency tests into testing software.

Service & Outreach

- Physics & Engineering Festival presenter, Texas A&M University (2025).
- Mu Theta Alpha (President), San Antonio, TX (2019–2021): Facilitated weekly discussions on mathematical methods; intermediary between sponsor and members.

Skills

- **Programming:** Python, C++, JavaScript, HTML/CSS
- **Scientific/Tools:** NumPy, SciPy, Matplotlib, LaTeX, Git
- **Domains:** Data analysis, simulation, instrumentation, basic DAQ