

Andrew Silvestri

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Chemical engineering student with interests in energy systems, process simulation, and energy modeling

EDUCATION

The University of Texas at Austin, Cockrell School of Engineering Expected Dec. 2028

Bachelor of Science, Chemical Engineering | Minor, Energy Studies | GPA: 3.06/4.00

Relevant Coursework: Physical Chemistry, Organic Chemistry I & II, Electricity Systems, Energy Law & Policy, Energy Technology & Policy. In progress: Transport Phenomena, Thermodynamics, Numerical Methods in ChE, Applied Statistics.

WORK EXPERIENCE

Process Engineering Intern, Targa Resources May 2026 – Aug. 2026

- Process and pipeline engineering for natural gas gathering systems; process simulation in ProMax.

Owner, Silver Tree Property Services LLC Aug. 2023 – Present

- Founded and run a property services business; price and scope jobs, source materials, and manage clients.
- Tracked costs and margins in Excel for properties and projects.

Lab Technician (Internship), Industrial Oils Unlimited May 2023

- Tested in-house industrial lubricant blends, currently in research trials, using viscosity, FTIR, and metal content analysis.
- Diagnosed solution defects through IR spectroscopy and reported findings in Excel.

Camera/Sound Technician, St. John's Episcopal Church Oct. 2021 – Jul. 2023

- Operated multiple cameras with DaVinci Resolve and ATEM switchers; mixed livestream audio on a Yamaha console.

PROJECTS

Energy Systems Model, Personal Research Project 2026 – Present

- Simulates a supply shock through plant capacity, fuel prices, and demand; checked against 11 events since 1973.
- 2 TB dataset from 83 sources (EIA, ENTSO-E, ERA5, EM-DAT) pulled in Python; monthly country panel from 15 of them.

andrewsilvestri.com, Interactive Energy Tools 2026 – Present

- Grid-battery revenue simulator: linear program over 8,760 hourly prices; value flattens above four hours of duration.
- Industrial heat electrification break-even (electric vs. gas boiler at Texas prices); life-cycle climate cost of 20 products.

INVOLVEMENT

Kay Bailey Hutchison Energy Center, Energy Studies Cohort Jun. 2025 – Aug. 2025

Texas NET Project, DAC Chemical Team Member Jan. 2025 – Present

Kay Bailey Hutchison Energy Center, Student Advisory Council Jan. 2025 – Present

SKILLS

- **Technical Experience:** ProMax, Python (pandas, scikit-learn, Manim), Julia, MATLAB, JMP, Excel (advanced, VBA), Altair HyperStudy, LaTeX, Zotero
- **Lab Experience:** Viscosity (capillary viscometer), FTIR, specific gravity, metals, freeze point, gel electrophoresis

HONORS & AWARDS

LeaderShape Institute, Engineering Leadership Retreat 2025

STEM Muse Mentor Program, Accepted Mentee 2025

James W. and Glenna C. Kilmer Engineering Scholarship Recipient 2023

National Merit Commended Scholar 2023

Eagle Scout Rank Award & Outstanding Eagle Scout Leadership Service Project Award 2021

National Advanced Youth Leadership Experience, Participant (2020), Staff (2021, 2022)

5x Marathoner with goal to run Earth's circumference (24,901 miles)