

RYAN DENNIS

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EDUCATION

Texas A&M University (College Station, TX)

Expected Graduation: May 2028

B.S. in Mechanical Engineering | Minors: Physics & Mathematics

GPA: 3.93

- **Honors:** Engineering Honors, Dean's Honor Roll
- **Study Abroad:** Engineering Economic Analysis — Thessaloniki & Athens, Greece
- **Coursework:** Solid Mechanics, Thermodynamics, Geometric Modeling, Numerical Methods, Materials in Engineering

RESEARCH & PROJECT EXPERIENCE

EcoFil — Additive Manufacturing Recycling System

Jan 2025 – Present

Treasurer & Public Relations Officer | Presentation Lead • Aggies Create, Texas A&M

- Collaborated on a 5-person team designing a closed-loop 3-phase system to convert 3D printing waste into reusable filament: material shredding, polymer dehydration, and thermal re-extrusion
- Developed 12+ SolidWorks CAD models; contributed to Phase 1 mechanical assembly and Phase 2 plasma cutting and welding of a custom metal convection oven; 15+ hrs/week fabrication; selected to present at Innovation Expo

Ivanpah CSP Plant Analysis

May 2026

College Station, TX

- Modeled and analyzed the Rankine cycle of the Ivanpah Concentrated Solar Power plant using Python and thermodynamic steam tables; produced T-s diagrams, efficiency vs. torque curves, and parametric plots
- Researched efficiency improvements from 12.8% to 43% via two-turbine reheating, regenerative feed-water heating, and state-of-the-art components

Mars Rover Simulation

Jan 2026 – May 2026

College Station, TX

- Solely responsible for 7 of 9 Phase 2 deliverables — built a Python rover simulation engine: dynamics ODE, motor speed, mechanical power, battery energy consumption, and full trajectory simulation
- Developed Phase 1 force models from first principles; authored terrain slope and rolling resistance scripts using numerical root-finding; reverse-engineered undocumented codebase for Phase 3 handoff documentation

Mechanical Ping-Pong Toy

Sep 2025 – Dec 2025

College Station, TX

- Designed, manufactured, and assembled a crank-driven mechanical toy using Chebyshev lambda linkages to convert rotational motion into controlled linear motion
- Performed kinematic analysis, gear ratio optimization, and tolerance refinement; laser cutting and 3D printing

PROFESSIONAL EXPERIENCE

RAD Builds™ — Custom Prop Commissioning & Instructing

Aug 2022 – Present

Founder & Operator • YouTube Channel: www.youtube.com/@radbuilds3000 • Lansing, KS

- Founded fabrication business building custom props and merchandise; fulfilled 30+ item batch orders; produced instructional build videos for 1,000+ YouTube subscribers; managed budgeting and production timelines end-to-end

Military Housing Internship — Frontier Heritage Communities

May 2025 – Jul 2025

Fort Leavenworth, KS

- Supported HVAC and plumbing maintenance teams across 200+ military residences; operated forklift and company vehicles; maintained safety protocols in active job-site environments across multiple skilled trades teams

LEADERSHIP & ACTIVITIES

ASME (A&M Chapter): Incoming Technical Projects Officer (2026-27); Merchandise Officer; Sophomore Retreat winner

Aggies Create: EcoFil Treasurer & Public Relations Officer; Spirit Award recipient (100+ member organization)

Sports for Kids: Incoming Fundraising Executive (2026-27); lead fundraising events, member recruitment & merchandise

Intramural Referee: Soccer referee & multi-sport scorekeeper, selected to officiate championship game

TECHNICAL SKILLS

Software: Python, HTML coding, MATLAB, SolidWorks, Onshape, Java, Design Space, Microsoft Office Suite

Fabrication: Plasma Cutter, Welding, Lathe, Band Saw, Miter Saw, Soldering, 3D Printing, Laser Cutting, Dremel

Engineering: CAD Modeling, Additive Manufacturing, ODE/Numerical Modeling, System Integration, Technical Writing