

Robert Humphrey

Education

Auburn University, Samuel Ginn College of Engineering

Bachelor of Aerospace Engineering

Auburn, AL

May 2026

Honors & Activities

- Eagle Scout, Boy Scouts of America
- Honor Society, Prattville High School

Technical Skills

- **Programming & Analysis:** MATLAB (numerical integration, simulation, plotting)
- **Modeling & CAD:** Autodesk Inventor, Autodesk Fusion
- **Flight Dynamics:** 3-DOF and 6-DOF simulations, state-space modeling, trajectory propagation
- **Data & Media Tools:** DAKStats, photo and video editing

Engineering Projects

Flight Dynamics Simulations (MATLAB)

- Developed a 3-DOF point-mass trajectory model incorporating gravity, thrust, drag, and lift
- Implemented a full 6-DOF rigid-body aircraft simulation using Euler angles and body-axis equations of motion
- Modeled coupled translational and rotational dynamics using force-moment equations and numerical time-marching integration

Aircraft Flight Design and Performance

- Conducted conceptual aircraft design studies, including weight estimation, aerodynamic sizing, and mission analysis
- Evaluated performance metrics including climb rate, range, endurance, and takeoff distance
- Analyzed stability and control characteristics using classical flight mechanics principles
- Applied constraint analysis to assess feasible design regions

Professional Experience

War Eagle Productions

Production Assistant

Auburn, AL

Oct 2021 – Dec 2025

- Performed post-production video editing for Auburn Athletics broadcasts
- Entered and verified statistical data for live game scoring operations
- Operated venue video and replay systems during live sporting events
- Utilized DAKStats interface in fast-paced, real-time environments

Leadership

Boy Scouts of America, Troop 25

Prattville, AL

- Planned and executed an Eagle Scout project, installing a time capsule commemorating a school anniversary
- Coordinated with community leaders to collect historical artifacts
- Led and supervised a volunteer team through project completion
- Volunteered as an Adult Leader on a High Adventure Base trip