CLANCY CRAWFORD ckcrawford963@gmail.com | https://clancy-crawford.github.io/ | +1(573)881-7124

Aerospace Engineering & Computational Mathematics student with experience in requirements driving design and verification, structural/thermal analysis, and multidisciplinary engineering projects.

EDUCATION

Embry-Riddle Aeronautical University - Florida

- Bachelor of Science in Aerospace Engineering (May 2027)
  Rocket Propulsion Track
- Bachelor of Science in Computational Mathematics (May 2027)
  Engineering Application Track

John Wood Community College - Illinois

- Associates of Science - Engineering Science (May 2024)
  Collegiate Volleyball and High Honors (3.75 GPA)
- Associates of Science: *Minor in Physics* (Dec 2023)
  Collegiate Volleyball and Highest Honors (4.0 GPA)

PROJECTS – collaborated in multidisciplinary teams

Avionics Box Structural & Thermal Analysis Design Apr 2025

- Created 3D models (SOLIDWORKS) of support and pipe structures; delivered technical reports and recommendations on material selection and design improvements. Analyzed supporting structure for an aircraft avionics box under multiple flight conditions (takeoff, cruise, turbulence, landing). Ensured requirements were met across all load cases.
- Performed structural calculations for limit and ultimate loads, normal, shear, principal, and maximum shear stresses.
- Conducted thermal & airflow analysis, developed performance criteria for temperature, and contributed to planning integration.

ERFSEDS Fuel Grinder for Rocket Prometheus Dec 2024

- Developed and evaluated design concepts through trade studies (SOLIDWORKS) for a fuel grinder part for a project rocket.

Catia Travel Magnetic Makeup Brush Stand Dec 2024

- Designed this project with Catia, creating 13 unique geometric complex parts to satisfy project and interface constraints.
- Documented assemblies and sub & main components with prepared full engineering documentation and presentation.

MATLAB Fitness Progress Tracker Program Dec 2024

- Coded a program that allows users to monitor their fitness journey, track workouts, diet plans, body measurements, and goals.
- Used techniques involving data initializing, processing, manipulation, error checking, display formatting, and much more.
- Implemented data processing and verification checks with problem solving to ensure accurate output and reliability.

Projectile Launcher May 2024

- Designed (SOLIDWORKS), researched, and built launcher from materials. Used design restraints to adhere to requirements.
- Performed performance analysis and compared predicted vs. actual results to validate system behavior. Delivered full reports.

Bridge May 2023

- Constructed a bridge within requirements on load and structural limits to uphold until failure. Delivered full report and analysis.

SKILLS

Programs: Catia, SOLIDWORKS, LaTeX, MobaXterm, eDrawings (familiar with engineering modeling & analysis tools)

Languages: MATLAB, Python, Java, HTML, CSS

Certifications: Microsoft Office: Word, PowerPoint, Excel

RESEARCH

Orbital Debris and Collision Avoidance in Low Earth Orbit – Presentation and Report

Researched orbital debris growth, tracking limitations, collision risk modeling, and debris mitigation strategies for spacecraft operating in Low Earth Orbit (LEO). Integrated NASA's DRAMA tool, SSA processes, conjunction assessment frameworks, and emerging technologies in autonomous avoidance. Educated others on this topic through presentations and conversation.

Numerical Methods for Ordinary Differential Equations – Presentation and Report

Implemented and compared numerical methods for solving ordinary differential equations, analyzing accuracy and stability. Applied numerical simulation techniques in MATLAB and python that are used in engineering modeling and analysis.

LEADERSHIP & INVOLVEMENT

ERAU: Club Volleyball Treasurer, Society of Women in Engineers (SWE), Society of Women in Space Exploration (SWSE), Embry Riddle Future Space Explorers and Developers Society (ERFSEDS)

JWCC: Collegiate Volleyball Athlete, Student-Athlete Advisory Council, Vice President of Phi Theta Kappa, Vice President of S.T.E.M. Club, Student Government Association

AWARDS

- Gold Scholar for Coca-Cola's Academic Team (National Level) May 2024
- All-USA Academic Team by Phi Theta Kappa Honor Society (National Level) May 2024
- NJCAA First Team Academic All-American in Women's Volleyball 2023, 2024
- Microsoft Office Specialist State Champion Microsoft Office Specialist (Word and Excel: Office 2016) May 2022
- Renewable Women of Excellence Scholarship ($5,000) Aug 2022

*work experience and references available upon request