# Anuranan Bharadwaj

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## EDUCATION

**Embry-Riddle Aeronautical University** — Daytona Beach, FL
*Bachelor of Science in Aerospace - Jet Propulsion* — **May 2026**
*Minor in Computer Science*
*GPA: 3.9*

## EXPERIENCE

**Systems Engineering Intern** | *Java, Git, SQL, Data Integration, Agile* — **July – August 2024**
*ABH Software* — *Assam, India*

- Contributed to the development of a **modular business operations platform**, focusing on **systems architecture and process integration** for inventory control and customer workflow management.
- Engineered **automated data reporting pipelines** using **SQL** and **Java** to simulate real-time telemetry and logistics tracking systems, **reducing manual report processing by 30%** and **improving accuracy by 20%**.
- Collaborated cross-functional design reviews and sprint planning, applying **Agile systems engineering principles** to streamline operations across customer, sales, and inventory management modules.

**Teaching Assistant – EGR 115 (Introduction to Computing for Engineers)** | *MATLAB* — **January 2024 – Present**
*Embry-Riddle Aeronautical University* — *Daytona Beach, FL*

- Guided students in **MATLAB programming**, data processing, and algorithmic problem-solving, improving their technical proficiency.
- Developed structured feedback systems to enhance students' coding practices and computational thinking.
- Led team-based problem-solving sessions, **fostering collaboration** and **analytical reasoning** among students.

## PROJECTS

**Aircraft Stability & Control Simulation |** *MATLAB, DATCOM, Simulink, FlightGear, Excel* — **April 2025**

- Modeled a subsonic aircraft using **DATCOM** and **stability derivatives**, ensuring adherence to **lateral**, **longitudinal**, and **directional static stability** requirements.
- Developed a closed-loop flight dynamics simulation in **Simulink** and integrated with **FlightGear for real-time 6-DOF visualization**.
- Validated **simulation accuracy with <3.5% deviation** from theoretical models, confirming static stability across multiple flight conditions.

**Aircraft Wing Structural Analysis**| *FEMAP, NX Nastran, Fusion 360* — **December 2024**

- Designed and modeled **a detailed wing structure** using **Fusion 360**, incorporating spars, ribs, stringers, and skin.
- Performed **finite element analysis** (FEA) in **FEMAP** with **NX Nastran** to evaluate stress, deflection, and load distribution under aerodynamic forces.
- Validated **mesh quality** (*Jacobian > 0.6*) and **maximum displacement of 0.15 in**, confirming structural efficiency.

**Pharmaceutical Inventory** | *Java, Object-Oriented Programming, Agile* — **June 2024**

- Developed a **Java-based inventory management system**, leveraging **OOP** principles (encapsulation, inheritance, polymorphism).
- Automated financial tracking, increasing **processing speed by 25%** and reducing **manual input errors by 15%**.
- Optimized **real-time inventory tracking**, streamlining supply chain processes for pharmaceuticals.

## SKILLS

**Engineering Software:** CATIA| FEMAP| NX Nastran| MATLAB| Fusion 360| Java| Python| HTML| CSS| JS| C#
**Developer Tools:** VS Code| Visual Studio| Git| PyCharm| Jupyter| Figma
**Data Science:** Pandas| Matplotlib| NumPy
**Courses:** Structures| Materials| Aerodynamics| Thermodynamics| Data Structures & Algorithms| OOP