

EZANA ZEMENFES

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EDUCATION

North Carolina A&T State University — Greensboro, NC *Expected Dec 2027*

B.S. Computer Engineering | GPA: 3.1

Relevant Coursework: Calculus III, Engineering MATLAB Programming, General Physics II, Engineering Design & Ethics, Computer Programming Design

Honors: NC NEXT STEP Scholar; TRIO McNair Scholar

Central Piedmont Community College — Charlotte, NC *Dec 2024*

Associate in Arts | Coursework: Pre-Calculus Algebra, Macroeconomics

TECHNICAL SKILLS

Programming: Python, MATLAB, Java, C++

Tools & Technologies: Pandas, Spotify Web API, Anthropic API, OAuth, Voyage AI API, FAISS, Microsoft Excel, Microsoft Word

Core Strengths: Problem Solving, Communication, Teamwork, Time Management

PROJECT EXPERIENCE

AI Document RAG Summarizer *In Progress*

- Building a document Q&A tool using Retrieval-Augmented Generation (RAG), combining PDF text extraction, custom text chunking, and semantic embeddings.
- Indexing embeddings (Voyage AI) with FAISS for similarity search, grounding LLM (Claude) responses in source documents to prevent hallucination.

Solar System Simulation & Mission Planner *Spring 2026*

- Engineered a real-time simulation of all eight planets, scaling orbital speeds using Kepler's Third Law.
- Modeled heliocentric positions with trigonometric functions and built event-driven planet selection to support a mission-planning workflow.

Animal Extinction Data Pipeline Project *Spring 2026*

- Built a Python/Pandas data pipeline to clean, transform, and analyze Kaggle datasets on endangered-species threats.
- Developed pipeline outputs to support predictive modeling and conservation-focused analysis.

Spotify API Mood-Based Recommendation Tool *Fall 2025*

- Built a Python application that maps user-entered moods to curated Spotify playlists using the Spotify Web API and OAuth authentication.
- Parsed and filtered API responses for track metadata, strengthening API integration, data-handling, and problem-solving skills.

Freshman Innovation World Cup Village Project Contest *Spring 2026*

- Served as budget engineer for a team-designed hypothetical village for World Cup athletes, managing the overall project budget.
- Balanced housing, infrastructure, and logistics costs while meeting contest hosting requirements.

RESEARCH & ENGINEERING EXPERIENCE

Dual-Camera Broadcasting System for Model Rocket *Summer 2026 – Present*

- Designing and building a dual-camera system to capture and broadcast real-time model-rocket flight footage.
- Integrating telemetry transmission to a ground-station monitor for real-time altitude and pressure tracking.

McNair Summer Research Institute *Summer 2026*

- Applied research methods through a structured academic research internship within the computer engineering discipline.
- Strengthened technical writing and communication while developing a research agenda supporting future graduate study.

LEADERSHIP & INVOLVEMENT

National Society of Black Engineers (NSBE), 2025–Present | American Institute of Aeronautics & Astronautics (AIAA), 2025–Present | Institute of Electrical & Electronics Engineers (IEEE), 2025–Present