

Elia Jean Botros

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EDUCATION

The Pennsylvania State University, University Park

Expected Graduation: December 2026

Bachelor of Science in Industrial Engineering

GPA: 3.3

Minor: Engineering Leadership Development

WORK EXPERIENCE

Kew Gardens Animal Hospital, Queens, New York

May 2026 - Aug. 2026

Animal Hospital Assistant

- Applied process standardization to surgical prep workflows, reducing average instrument setup time and improving procedure throughput across a high-volume clinical environment.
- Designed and maintained standardized equipment and inventory protocols.
- Optimized appointment scheduling and patient intake processes to balance daily caseload, reduce bottlenecks, and minimize patient wait times.

PROJECT EXPERIENCE

Stone Valley Boardwalk Replacement - ENGR 405 Project

Sept. 2025 - Dec. 2025

Project Lead & Team Member

- Managed full project schedule in Microsoft Project for a 1,200-ft boardwalk reconstruction, mapping critical path across a 5 member team over a 6-week construction period.
- Created Work Breakdown Structures, assigned resources, and established schedules to track progress.
- Conducted risk analysis, change control, and formal project closeout with lessons learned documentation.

ACRP University Design Competition

Jan. 2025 - May 2025

Team Lead & System Designer

- Led system design of GSE Sync, an AI-powered fleet routing system using reinforcement learning and shortest-path algorithms to optimize 250+ ground support vehicles at Seattle-Tacoma International Airport, targeting a 60% reduction in vehicle idle time.
- Collaborated with a 4 member team to develop MATLAB and SUMO simulation prototypes using real OpenStreetMap airport data to model dynamic vehicle routing across multiple flight delay scenarios.
- Performed risk analysis and developed mitigation strategies across identified risk categories.

LEADERSHIP & INVOLVEMENT

Mentor & Tutor, FIRST Robotics Competition Team 2638

Jan. 2024 - May 2024

- Provided remote technical mentorship to FIRST Robotics Team 2638, advising on mechanical systems design, CAD modeling in SolidWorks, and systems-level integration.
- Guided students through engineering design tradeoffs, manufacturing feasibility, and competition requirements through virtual collaboration.

Broadcast Lead, Penn State Intramural Sports

Jan. 2023 - Oct. 2023

- Led live broadcast operations coordinating technical setup, production flow, and real-time problem solving during events.

SKILLS & CERTIFICATIONS

MATLAB, Python, SQL, Excel, SolidWorks, AutoCAD, Microsoft Project, Minitab, LINDO, Figma

Certification: Six Sigma Green Belt - IISE (Expected Sept. 2026)