

Samaa Hassanin

SPACE NAVIGATION SPECIALIST

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Objective

A passionate Space Navigation Graduate with strong technical background in satellite systems, navigation algorithms, environmental sensing, and drone-based data collection. My academic and project experience spans across aerospace control systems, sensor integration, and data analysis. Seeking opportunities in the space industry to contribute to cutting-edge research, satellite operations, or remote sensing applications.

Education

B.Sc. in Space Navigation
Faculty of Navigation and Space Technology,
Beni-Suef University, Egypt
Graduated: July 2025
GPA: 3.753

Graduation Project: "Space In-situ Drone-Based Environmental Pollution Monitoring"
Grade: A+ (Full Mark)

Academic & Project Experience

I. Graduation Project – Field Operations Lead

"Space In-situ Drone-Based Environmental Pollution Monitoring"

- Led UAV-based field operations to measure environmental gases (CO₂, CH₄, NH₃, CO).
- Executed 3 multi-altitude aerial missions and integrated results with AI and GIS validation.
- Served as primary author/editor of the final technical report, coordinating all project tracks.

II. CubeSat Development Project

Team-Based Satellite Simulation | Space Systems Engineering Practice

- Designed a LabVIEW dashboard for real-time CubeSat telemetry (temperature, humidity, orientation).
- Integrated onboard sensor data with a ground station interface.
- Collaborated on satellite systems architecture and communication protocols.

III. NASA Space Apps Cairo Hackathon – Team Project: Aton

Helio Year Awareness App | NASA Global Hackathon | Oct 2023

- Contributed to research, design, and presentation of a mobile app to raise awareness of solar events.
- Qualified in the local round; received recognition from event organizers.

IV. Event Countdown Mobile App

Flutter-Based Application | Egypt Pioneers Initiative – Team Graduation Project

- Built a Flutter-based app for event tracking with countdown timers, dark mode, and notifications.
- Tools: Flutter, Dart, Android Studio
- GitHub: github.com/samaa-akar/event_countdown

V. Additional Technical Projects (*brief*)

- **IoT Smart Parking Garage** – Designed an IoT parking system using ultrasonic sensors, RFID, and real-time availability display (ITI Training).
- **Robot Arm for Garbage Collection** – Programmed a servo-controlled arm for targeted waste collection, improving accuracy by 25%.

Skills

Technical Skills:

Programming Languages: Python, Dart, Java, C++ | **Frameworks:** Flutter.

Tools & Software: LabVIEW, Android Studio, MATLAB

Data Tools: GIS, Excel, Real-time dashboards | **Protocols & Systems:** MQTT, RFID, Sensor Fusion

Documentation: Technical Report Writing, Scientific Presentation, Research Summarization

Soft Skills:

- Teamwork
- Problem solving
- Communication
- Leadership

Trainings & Courses

CubeSat Design Course – TECHED (Dec 2024)

Created a LabVIEW-based real-time data visualization dashboard for CubeSat sensors.

Worked on satellite-ground station communication in a multidisciplinary team.

Mobile App Development – MCIT x Dotpy (Oct 2024)

Acquired fundamental skills in Flutter development and cross-platform UI design, built sample apps, and applied best practices in cross-platform UI/UX

FPGA & IC design – NRIAG (Sep 2023)

Gained hands-on exposure to digital logic design and VHDL simulation for embedded systems.

Python Programming – ITI (Jul 2023)

Learned Python basics, data structures, and scripting for automation and analysis.

IoT: Internet of Things Application Development – ITI (Sep 2022)

Built simple IoT prototypes with sensors and cloud dashboards using MQTT and microcontrollers.

Languages

- **Arabic:** Native
- **English:** Upper-intermediate (B2)
- **French:** Elementary (A2)