Romany Rizieq

Aerospace Engineer

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Giza, Egypt | **Military Service**: Completed.

Professional Summary

Aerospace Engineer, 25 years old, specializing in **UAV and drone technology** with expertise in **fixed-wing UAVs**, **eVTOL systems**, and **flight control optimization**. Proficient in tools like **SolidWorks**, **XFLR**, and **PIXHAWK**, with hands-on experience in **propulsion systems** and **embedded systems**.

Certified in **Embedded Systems** with a focus on **C Programming** and **RTOS**, and experienced in **automotive maintenance** and propulsion technologies, including hands-on training at Nissan maintenance centers. Passionate about delivering innovative solutions in aerospace and automotive engineering.

Education

Bachelor of Aerospace Engineering (2022)

Cairo University | GPA: 3.2 (Very Good)

Graduation Project: Urban Air Mobility (eVTOL) (2021 – 2022)

- Designed and developed an **electric vertical takeoff and landing (eVTOL)** vehicle using **SolidWorks**, focusing on weight optimization and system integration.
- Engineered an 8-motor propulsion system with battery, ESC, and control connections.
- Configured **ArduCopter** for optimized flight performance and autonomous operation.

Experience

Computer Engineer | Reserve Officer (Full Stack Web Development)

Military Unit | November 2022 – September 2024

- Developed and maintained web applications to streamline internal processes and enhance operational efficiency.
- Designed and implemented user-friendly interfaces to ensure a positive user experience.
- Technologies used: HTML, JavaScript, PHP, Bootstrap, Tailwind CSS, jQuery, SQL.

Fixed-Wing UAV Design Engineer

UDC for Fixed-Wing UAV, Faculty of Engineering, Aerospace Department | May 2019 – September 2019

- Designed a **fixed-wing UAV** using **SolidWorks**, creating detailed 3D models and integrating propulsion and control systems.
- Conducted aerodynamic simulations using **XFLR** to optimize lift-to-drag ratios and stability.
- Participated in UAV flight testing and performance evaluations.

Automotive Maintenance (Internship)

Nissan Maintenance Centre

- Gained hands-on experience in automotive repair and maintenance.
- Specialized in diagnosing and repairing propulsion and control systems in vehicles.

Aerospace Engineer (Internship)

EGYPTAIR | August 2021 – October 2021

- Gained valuable experience in the aerospace industry through a comprehensive training program.
- Developed a strong understanding of aircraft systems and operations.

Mechanical Engineer (Internship)

Industrial Control for Engineering Industries | September 2020 – November 2020

- Utilized SOLIDWORKS to design and analyze chassis components, ensuring structural integrity under heavy loads.
- Successfully implemented design principles to optimize performance and functionality.

Technical Projects

Advanced Fixed-Wing UAV Design (May 2019 – September 2019)

- Developed a **fixed-wing UAV** optimized for endurance and stability.
- Integrated aerodynamic profiles and propulsion systems tailored for high efficiency and payload.

Design of Axial Compressor and Turbine (April 2021 – May 2021)

- Designed an axial compressor using NACA 65 airfoil and a turbine with a desired Mach number, achieving 87% efficiency.

Embedded Systems for UAV Control (February 2024 – August 2024)

- Built UAV control systems using ATmega32 microcontrollers:
    - Obstacle Avoidance System: Integrated ultrasonic sensors for navigation safety.
    - Stabilization System: Developed temperature-controlled fan mechanisms for UAV cooling.
    - Secure UAV Access System: Designed secure access protocols using keypads and LCDs.

Skills

UAV and Drone Engineering

- **Design & Development:** Fixed-wing UAVs, eVTOL aircraft, propulsion systems.
- **Software:** SolidWorks, XFLR, MATLAB, ANSYS, FEMAP, ArduCopter, PIXHAWK.
- **Simulation & Analysis:** Aerodynamic optimization, structural analysis, and flight dynamics.

Embedded Systems Development

- **Programming:** C Language, RTOS, AUTOSAR.
- **Control Systems:** Microcontrollers, sensors, actuators, and UAV stabilization systems.

Automotive Maintenance

- Diagnosing and repairing propulsion systems.
- Maintenance and optimization of automotive components.

Web Development

- **Programming:** HTML, CSS, JavaScript, Node.js, React.
- **Database Management:** SQL Server**.**

Essential Skills

- Leadership | Problem Solving | Adaptability | Communication | Team Collaboration

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Languages

- **Arabic**: Native
- **English**: Excellent