

ROBA ELSADOWY

Cairo, Egypt | 01140549497 | robaelsedawy@gmail.com | [LinkedIn](#)

CAREER OBJECTIVE

Mechanical Power Engineering graduate with a strong foundation in renewable energy, CFD, and practical exposure to the automotive sector through Formula Student competitions. Proficient in tools such as ANSYS fluent. Passionate about simulation-driven problem-solving, sustainable technologies, and applying engineering principles to real-world challenges. A collaborative team player who thrives in dynamic, fast-paced environments and is eager to contribute to innovative, interdisciplinary projects.

EXPERIENCE

Aerodynamics Team Member, Ain Shams University Racing Team, Faculty of Engineering. Formula Student UK by IMechE, November 2023 – July 2025 (FSUK'24 & FSUK'25)

- Designed a front wing for a Formula Student Electric car in compliance with FSUK 2024 competition regulations.
- Conducted CFD analyses to optimize aerodynamic efficiency, improving lift-to-drag ratio.
- Processed and analyzed CFD output data to enhance design efficiency.
- Participated in technical documentation and cross-functional collaboration with the design and manufacturing teams as a design team member.
- Concept Class Engineering Design Winner in FSUK'24

Mechanical Engineering Intern, Madkour EPC, July 2024 [Top Performer]

- Gained practical experience in HVAC, plumbing, firefighting, and drainage system design
- Used HAP software and AutoCAD for system layout planning for HVAC systems.
- Used Elite software to perform calculations for firefighting systems and AutoCAD for system layout planning.
- Extracted data from ASHRAE, NFPA, and IPC standards to support design decisions.
- Observed tender and technical office workflows, enhancing project management awareness.
- Managed complex tasks and deadlines while working on multiple systems.

Trainee, Petrogas Co., July 2023

- Shadowed mechanical engineers in plant operations, learning about energy systems and workflows in the petroleum sector.
- Developed communication and observation skills through technical tasks and meetings.

Trainee, Arab Contractors, June 2022 – July 2022

- Assisted in assembling and maintaining engineering equipment, including engines.
- Supported documentation tasks and learned core concepts of equipment handling and on-site engineering.

EDUCATION

- **Graduation Project: A Comparative Assessment of Aerodynamic Performance Prediction Methodologies for Formula Student Race Cars – Grade: Excellent**

- Modeled, simulated, and validated aerodynamic performance of the ASURT Formula Student rear wing.
- Validated CFD results against a paper including a wind tunnel experiment.
- Focused on accuracy, efficiency, and applicability of k-omega SST model to inform future design processes.
- **Bachelor of Science in Mechanical Power Engineering** Faculty of Engineering, Ain Shams University – Cairo, Egypt. **2020-2025**

Relevant Coursework: Computational Fluid Dynamics, Environmental Impact of Mechanical Power Projects, Internal Combustion Engines, ...

- **High School Diploma** Rajac Language Schools – Cairo, Egypt. **Graduated: 2020**

SKILLS

- **Software & Tools:** Ansys Fluent, Star CCM+, SpaceClaim, AutoCAD, Fusion 360, Inventor Pro, SolidWorks, HAP, Elite, Microsoft Office (Word, Excel, Powerpoint), MATLAB & Simulink (beginner)
- **Core Competencies:** CFD analysis, problem-solving, technical writing, adaptability, teamwork.
- **Soft Skills:** Effective communicator (bilingual: English & Arabic), hands-on problem solver and simulation enthusiast, thrives in team settings with innovative mindsets, quick learner and deadline-oriented performer, passionate about clean energy, sustainability and EV innovation

LANGUAGES

- **English:** Fluent
- **French:** Beginner – actively learning

EXTRACURRICULAR ACTIVITIES

Youth Impact Studio (YIS) by PepsiCo Bootcamp – Gouna, Egypt. February 2025

Selected for a competitive ESG-focused bootcamp covering sustainability and corporate innovation.

Collaborated on real-world sustainability challenges and presented impact-driven solutions to mentors and peers.

ISI4Egypt Winter School in Sustainable Innovation & Industry by TU Berlin & Ain Shams University. February 2025

Studied innovation frameworks, sustainable development, and circular economy principles.

Upskill Program by ASU Career Center. September 2023

Attended workshops about presentation skills, leadership skills, stress management and cognitive flexibility.

Mint Ambassadors by EGBank. July 2023

Completed modules on financial literacy, personal branding, entrepreneurship, and career readiness.

CERTIFICATES AND PORTFOLIO

Provided in this [link](#)