

# OMAR ELSHERBINY

Munich, Germany

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## EDUCATION

### MSc Aerospace, Technical University of Munich (TUM)

Munich, Germany | 10/2023 – present

- **Modules:**  
Aerodynamics of Aircraft 1, Applied CFD, Rocket Propulsion, Electric Space Propulsion, Spacecraft Design, Space Mission Design, Orbit and Flight Mechanics, Fundamentals of Flight Control, Aircraft Design, Space Resources, Space Exploration, Life Support Systems, Politics for Rocket Scientists, Spacecraft Thermal Analysis and Test, Topology Optimization, Composite Materials, Model-Based Systems Engineering, Systems Engineering, Business Planning (UnternehmerTUM)
- Semester Thesis: Design and analysis of a cold plate and thermal shroud for a thermal vacuum chamber.
- Master Thesis: not started yet
- Grade: not completed

### BEng Mechanical Engineering, Coventry University

Coventry, UK | 09/2019 – 06/2023

- Top Achiever Scholarship
- Academic Scholarship
- Grade: First Class (with honours)

### IGCSE Diploma, Egypt British International School

Cairo, Egypt | 09/2017 – 07/2019

- 8 Ordinary Level Subjects and 4 Advanced Level Subjects

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## RESEARCH EXPERIENCE

### Professorship of Lunar and Planetary Exploration, TUM

Munich, Germany | 05/2024 – present

#### Scientific Student Assistant *Supervision of Prof. Dr. Philipp Reiss*

- Supporting in building lab infrastructure
- Assisting PhDs with day-to-day research tasks to support ongoing research
- Developing teaching demo materials

### Coventry University

Cairo, Egypt | 03/2022 – 05/2023

#### Researcher *Supervision of Prof. Stratis Kanarachos*

- Data analysis forecast of spot and futures carbon emission prices
- Developing neural networks and running Multifractal Detrended Fluctuation Analysis using MATLAB and Python

### Coventry University

Cairo, Egypt | 06/2021 – 06/2022

#### Research Intern

- Part of the team examining mechanical properties of 3D printed Wood PLA and ABS specimens
- Fabricated the test specimens with 4 different models.
- Performed mechanical tensile tests on the specimen produced.
- Ensured all ISO standards decided on are instigated.

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## WORK EXPERIENCE

### Edibon International

Madrid, Spain | 09/2022

#### Intern

- Testing and Validation of various equipment. The equipment included a hydrogen fuel cell, wind turbine, heat transfer and losses in pipes.

### Elsewedy Electric PSP

Dubai, UAE | 07/2021 – 08/2021

#### Intern

- Trained at El Layyah Power Plant in the operations department.
- Worked alongside each of the following five groups: Engineering, Procurement, Construction, HSE and Quality Control.

### GASTEC

Cairo, Egypt | 06/2021 – 07/2021

#### Intern

- Assisted in converting gasoline cars to use compressed natural gas as well.
- Maintained and repaired compressed natural gas stations.
- Assisted in the engineering design process by running simulations using Solidworks.

**Coventry University**  
**Manufacturing Assistant**

**Cairo, Egypt | 02/2021 – 05/2021**

- Operated CNC machines such as Router, laser cutters, lathes, PCB Millers, and 3D Printers.
- Implemented a documentation system to help monitor inventory in the fabrication lab.
- Trained younger students and potential applicants in all technical aspects of the job.

**Coventry University**  
**Mathematics Assistant**

**Cairo, Egypt | 10/2020 – 12/2020**

- Encouraged and enabled foundation-level students in mathematics by giving extra 2-hour sessions every week.

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**CLUBS & COMPETITIONS**

**WARR**

**Munich, Germany | 11/2023 – 01/2024**

**Mission Control**

Part of the mission control team at the Scientific Workgroup for Rocketry and Spaceflight (Wissenschaftliche Arbeitsgemeinschaft für Raketentechnik und Raumfahrt) of the Technical University of Munich.

**Robotics Club**

**Technical Officer**

**Cairo, Egypt | 10/2021 – 06/2023**

One of three technical leads at the robotics club of Coventry University's Branch in Egypt. Led and oversaw a project team in designing a chess-playing robot. Advised technical members in the Robocup competition.

**Minesweepers (Competition)**

**Alamain, Egypt | 01/2022 – 03/2022**

**Mechanical Lead**

Goal: An international competition that aims at raising public awareness of the seriousness of landmines and unexploded ordnances (UXOs) contamination, fostering robotics research and its applications in the area of humanitarian demining in the world and actively contributing toward the achievement of Sustainable Development Goals (SDGs) adopted by the United Nations.

**Shell Global, Imagine the Future (Competition)**

**Cairo, Egypt | 01/2021 – 08/2021**

Goal: Encourage students' creative thinking by developing scenarios that envision the future of cleaner energy in Egyptian cities by 2050.

- 3rd place across Egypt and an award of 10,000 EGP

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**PAPERS/PUBLICATIONS & EVENTS**

**International Astronautical Congress**

**Milan, Italy | 10/2024**

Conference Papers:

- O. Elsherbiny, M. Eltayeb, K. Zaki, O. Daoud, A. Abdellatif (2024). 'Development of an Air-breathing Electrostatic thruster for High-Altitude propulsion'. *International Astronautical Congress*. Milan, Italy
- A. Abdellatif, O. Elsherbiny (2024). 'Microgravity Testing of a Newly Developed Air-Breathing Electrostatic Thruster'. *International Astronautical Congress*. Milan, Italy

**Egyptian Space Summit**

**Cairo, Egypt | 08/2022**

Attendee

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**SKILLS**

**Technical Skills**

Astah SysML (MBSE), COMSOL, Thermal Desktop, MATLAB, Simulink, Ansys CFX, Autodesk Inventor, Solidworks, Python, Converge CFD, Star CCM, Abaqus, Fusion 360, AutoCAD, CNC, Machining, 3D Printing, and Microsoft Office

**Languages**

Arabic (native), English (C1), German (A2), Spanish (A1)

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**VOLUNTEERING**

**Roofing**

**Fayoum, Egypt | 01/2020**

- Volunteered in building roofs in a remote rural area in Egypt.
- Built 80.5 roofs covering an area of 1,600 feet squared.