

Abdelrahman Ibrahim

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Education

M.Eng. International Energy Engineering | Ostbayerische Technische Hochschule Amberg-Weiden, Germany | 03/2024

Projects :

- Energy Management System Design for a Residential City Quarter – Developed a cost- and CO₂-optimized hybrid energy system using Python (Pandas, Numpy)
- Solar PV System Simulation – Designed and compared an economical vs ecological PV configuration using Polysun; calculated system performance, and CO₂ footprint.

B.Sc. Mechanical Power Engineering | Mansoura University, Egypt | 09/2018 – 07/2023

- Final Grade: Very Good (GPA: 2.3)
- **Thesis:** Design of Formula Student Race Car (Achieved Excellent Grade, 95%).

Professional Experience

Mechanical Engineer | First Co. for Industrial Development S.A.E., Cairo, Egypt | 11/2023 – 03/2024 (Packing Industry)

- Directed comprehensive mechanical maintenance for BHS and TCY corrugated cardboard production lines (Bobst SPO160, DF924, P1600, MarquipWardUnited).
- Executed expert troubleshooting and diagnostics, rapidly resolving complex mechanical failures and effectively minimizing production downtime.
- Pioneered and implemented proactive preventive maintenance schedules, significantly improving machinery reliability and enhancing operational efficiency.
- Championed precision engineering and efficiency improvements, optimizing production output and reducing operational waste.

Internships

Mechanical Engineer Intern | Alexandria Shipyard (Maritime Engineering), Alexandria, Egypt | 09/2022

- Engaged in ship manufacturing stages (design validation to assembly), focusing on propulsion systems, auxiliary machinery, and energy efficiency in maritime applications.
- Operated and maintained industrial pumps, compressors, and related energy-consuming equipment, optimizing operational parameters and maintenance schedules.
- Applied Non-Destructive Testing (NDT) and hydrostatic testing for quality assurance of critical components and pipeline systems.
- Contributed to pipeline production processes and precision shaft alignment for ship propulsion systems.

Mechanical Engineer Intern | ADES (Oil& Gas Industry), Cairo, Egypt | 08/2022

- Acquired in-depth knowledge of onshore/offshore drilling operations, and rig technologies, emphasizing safety and environmental protocols.
- Proactively participated in a diesel engine overhaul (Mantrac), meticulously inspecting components and reassembling systems to enhance engine performance and fuel efficiency.
- Analyzed Blowout Preventer (BOP) systems, highlighting the role of hydraulic systems in ensuring rig safety.

Mechanical Engineer Intern | Damietta Power Plant, Damietta, Egypt | 08/2021

- Mastered operational knowledge of large-scale power plant systems (boilers, steam/gas turbines, CCGT, compressors).
- Skillfully monitored and managed plant processes using Distributed Control System (DCS), ensuring stable, efficient, and safe operation.
- Analyzed plant efficiency parameters and contributed to discussions on energy optimization and CO2 reduction strategies.

Mechanical Engineer Intern | SIEMENS Service Center, Ain Sokhna, Egypt | 04/2021

- Gained hands-on experience with advanced industrial hydraulic and electro-hydraulic systems for automation and control in energy generation and manufacturing.
- Assisted in designing and maintaining complex hydraulic circuits, ensuring optimal performance, safety, and reliability of critical machinery.
- Proficiently interpreted hydraulic symbols and schematics, enabling efficient system troubleshooting and maintenance.

Projects & Volunteering

Head of Suspension & Steering Systems | Mansoura Motorsport Team (Formula Student & EV Rally) | 2020 – 2023

- Led and mentored a sub-team of 5 engineers in designing, simulating, analyzing, and manufacturing suspension and steering systems for Formula Student race cars.
- **Formula Student UK (Concept Class 2021 & 2022):** Guided team to 27th overall (65 teams) and 14th in Cost & Manufacturing. Directed suspension system design lifecycle (SolidWorks CAD, ANSYS FEA).
- **Electric Vehicle Egypt Rally (EVER) 2022:** Pioneered EV suspension design, contributing to 4th place overall (19 teams). Instrumental in 2nd place business plan. Focused on lightweight design and regenerative braking for energy efficiency.

Skills

- **Engineering Software & Tools:** AutoCAD (Basic), ANSYS (Basic FEA), Python, Polysun.
- **Maintenance & Manufacturing:** Preventive & Predictive Maintenance, Troubleshooting, NDT, Quality Control (QC), Lean Six Sigma (Process Optimization, Waste Reduction).
- **Office Productivity:** Microsoft Office Suite (Word, Excel, PowerPoint, Outlook).

Languages

- Arabic (Native), English (C1 Level), German (B1 Level).

Courses & Certifications

- **Lean Six Sigma Black Belt Certification** (01/2024)
- **Comprehensive Rotating Equipment Diploma** (10/2023): Pumps, Gas Compressors, Gas Turbines (Design, Operation, Troubleshooting, Maintenance), Vibration Monitoring & Analysis, Machine Alignment, Balancing, Mechanical Seals.
- **Heavy Equipment Hydraulics Systems** (11/2021)
- **Supply Chain Management Fundamentals** (American Chamber of Commerce in Egypt, 09/2021)
- **Certified SolidWorks (CSWP-WD, CSWP, CSWA)** (05/2021)