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ABOUT ME

A dedicated, detailed and capable research assistant with experience in modeling and simulation of energy systems and processes. Excellent programming skills using Fortran and C++. Experienced in thermodynamic modeling and computational fluid dynamics (CFD) using ANSYS Fluent. A confident presenter at conferences and teacher in classrooms, able to explain complex information to audiences of all levels.

WORK EXPERIENCE

University teaching assistant

Assiut University [Current]

Address: Assiut (Egypt)

- Researcher
- Tutor and marker

EDUCATION AND TRAINING

M.Sc. in Mechanical Engineering

Assiut University [2019]

Address: Assiut (Egypt)

Thesis title: " Performance Study of a Direct Injection Dual Fuel Natural Gas-Diesel Engine"

B.Sc. in Mechanical Engineering

Assiut University [2012]

Address: Assiut (Egypt)

Ranked 3rd of 220 students.

Thesis title: " Power Generation Using Renewable Resources (Biomass and Solar Energy)"

LANGUAGE SKILLS

Mother tongue(s):

Arabic

Other language(s):

English

LISTENING C1 READING C2 WRITING B2

SPOKEN PRODUCTION B2 SPOKEN INTERACTION B2

PUBLICATIONS

Publications

• **Journal Papers:**

1. Abo-Elfadl, S., Abdulmoez, M., Nassib, A., 2019, "Simulation Modeling of a Dual Fuel (Natural Gas-Diesel) Engine Using Early Direct Injection Technique of Natural Gas," Journal of Engineering Sciences-Assiut University, 47 (4), pp. 493-512

• **Conference Papers:**

1. Abdulmoez, M., Abo-Elfadl, S., Nassib, A., 2018, "Natural Gas Fueling Technologies for Internal Combustion Engines-A Technical Review," Proceedings of the Third International Conference on Solar Energy Solutions for Electricity and Water Supply in Rural Areas, Cairo.

NETWORKS AND MEMBERSHIPS

Memberships

Syndicate of Egyptian Engineers

The combustion Institute - Egypt Section

RECOMMENDATIONS

1. Prof. Dr. Ibrahim Hassab-Allah

Professor Emeritus and previous chairman of the Mechanical Engineering Department, Faculty of Engineering, Assiut University

Mobile: +201205909558

E-mail: ibrahim.abdeldaiam@eng.au.edu.eg

2. Dr. Saleh Abo-Elfadl

Associate Professor, Department of Mechanical Engineering, Faculty of Engineering, Assiut University

Mobile: +201151727407

E-mail: salehaboelfadl2@gmail.com

3. Dr. Osman Mousa

Assistant Professor, Department of Mechanical Engineering, Faculty of Engineering, Assiut University

Mobile: +201013433423

E-mail: osman.mousa@aun.edu.eg

HONOURS AND AWARDS

Honours and awards

- The memorial award of Prof. Yahya Mahmoud El-Sayed for being distinguished in Thermodynamics-I course, 2010
- Academic excellence awards in the form of financial awards for the academic years 2010, 2011 and 2012. These awards are given to students with DISTINCTION overall grade.
- Egyptian Engineering Syndicate award for graduation projects, December, 2012
- Ibtiecar award for graduation projects, January, 2013

RESEARCH AREAS OF INTEREST

Research Areas of Interest

- Computational Fluid Dynamics (CFD)
- Internal Combustion Engines
- Combustion
- Combustion Modeling
- Gasification

COMPUTER AND PROGRAMMING SKILLS

Computer and Programming Skills

- Fortran programming language
- C++ programming language
- Matlab programming language
- ANSYS 18.2 Simulation Package (FLUENT, Forte, Transient Structural)
- SolidWorks CAD Software
- CAIA V5 CAD Software
- Microsoft Office Package

TEACHING EXPERIENCE

Teaching Experience

- ***Tutor and marker for the following courses in the Mechanical Engineering Department:***

- o Fortran Programming
- o C++ Programming
- o Engineering Drawing
- o Fluid Mechanics
- o Thermodynamics
- o Internal Combustion Engines
- o Renewable Energy
- o Energy Systems; Power Plants and Economics
- o Machine Construction
- o Environmental Engineering
- o Principles of Mechanical Engineering for Civil Engineering students

For each course, the class size ranged from 20 students to 60 students.

Tasks included solving examples during tutorials, helping students during office hours, and marking midterm exams.

- ***Some of my teaching achievements:***

- o Helped the students to develop C++ projects using object-oriented programming
- o Helped the students to understand engineering parts through SolidWorks software
- o Helped the students in designing solar thermal systems for different applications; including indoor heating, swimming pool water heating, and domestic water heating.
- o *Assisted in supervision for a graduation project for 4th-year mechanical engineering students titled "Converting agricultural solid wastes into a combustible fuel to generate electricity"*
- o *Assisted in supervision for a graduation project for 4th-year mechanical engineering students titled "Design of a Photovoltaic Power Generation System Floating on Top of Nasser Lake "*

PROFESSIONAL DEVELOPMENT

Professional Development

- **Computer-Aided Design using CATIA V5:**

A 3-day workshop at the Mechanical Engineering Department, Assiut University. This workshop covered an introduction to using CATIA V5 software in engineering design.

- **Design of solar thermal systems:**

A 2-day workshop at the Mechanical Engineering Department, Assiut University. This workshop covered the sizing of a solar thermal system with practical applications.

- **Design of Experiments:**

A 1-day workshop at the Mechanical Engineering Department, Assiut University. This workshop covered the statistical methods for the design of experiments with examples.

- **Office 365:**

A 1-day workshop at the Mechanical Engineering Department, Assiut University. This workshop was given by a software engineer at Microsoft. It covered an introduction to the main features of Office 365.

- **Time Management:**

A 2-day training program at the Faculty and Leadership Development Center in Assiut University.

- **How to Write a Competitive Research Proposal:**

A 2-day training program at the Faculty and Leadership Development Center in Assiut University.

- **Presentation Skills:**

A 2-day training program at the Faculty and Leadership Development Center in Assiut University.

- **Quality Standards in the Educational Process:**

A 2-day training program at the Faculty and Leadership Development Center in Assiut University.

- **The Technicalities of Designing and Conducting Scientific Research:**

A 2-day training program at the Faculty and Leadership Development Center in Assiut University.