





Mohamed A. Elhaj Umbarek

Libya, 1989.
Mechanical Engineer
Assistant Lecturer.

An independent candidate with plenty of experience and hardworking, complex problem solving, holding B. Sc. and M. Sc. Degree from University of Tripoli.



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EDUCATION

(2017- 2018) University of Tripoli *Master degree* in Mechanical engineering, (*GPA3.68*).

(2013- 2014) University of Tripoli First class honor *Bachelor degree* in Mechanical engineering

PUBLICATIONS

[Academic Articles](#) (Energy consumption in Residential Building: comparison between three Different building style), [Authors](#) (Mohammed A. Umbrek, Samah.K. Alghoul, Elhadi I. Dekam), International Journal of Scientific Engineering and Applied Science (IJSEAS) – Volume-6, Issue-8, [August 2020](#).

[Academic Articles](#) (Optimization and Energy Performance of 400MW Steam Power Plant Based On MINIREFPROP Software Packages), [Authors](#) (Malik.F. Elmezghi, Abdulhafed.M. Mjani,Saji S. Lagha, Mohammed A. Umbarek), Journal of Research in Mechanical Engineering (Elsevier journals) – Volume-11, Issue-4, [October 2021](#).

[Academic Articles](#) (Design of Solar Powered Space Heating and Domestic Hot Water System for Libyan Common House), [Authors](#) (M. Abdunnabi, Ibrahim. H. Tawil, M. Benabeid, Mohammed A. Umbarek), The 12th International Renewable Energy Congress, [IREC 2021](#).

[Academic Articles](#) (Optimization and Energy Performance of 400MW Steam Power Plant Based On MINIREFPROP Software Packages), [Authors](#) (Malik.F. Elmezghi, Abdulhafed.M. Mjani,Saji S. Lagha, Mohammed A. Umbarek), Journal of Research in Mechanical Engineering (Elsevier journals) – Volume-11, Issue-4, [October 2021](#).

[Academic Articles](#) (Exergy Investigation Of Home Air Conditioner Working With Different Environment Friendly Refrigerants), [Authors](#) (FARAJ EL SAGIER , Mohammed A. Umbarek), Journal of Research in Mechanical Engineering (Elsevier journals) – Volume-12, Issue-2, [April 2022](#)

[Academic Articles](#) (Exergoeconomic And Sensitivity Analyses of a Gas Turbine Power Plant Using Mini-REFPROP And Matlab simulink), [Authors](#) (Mohammed A. Umbarek , Malik.F. Elmezghi, Elhadi I. Dekam, Islam k. Shahboun ,Moataz S.M. Fakah), Journal of Research in Mechanical Engineering (Elsevier journals) – Volume-10, Issue-4, [March 2023](#).

TEACHING EXPERIENCE

(2019- Present) A Faculty at Department of Mechanical and Industrial Engineering, Tripoli University, where I teach college-level courses like (Fluid Mechanics, Thermodynamics, Numerical Analysis).

(2015- 2018) Demonstrator, Department of Mechanical and Industrial Engineering, Faculty of Engineering, Tripoli University. My responsibilities include teaching under graduates, tutorials, grading exams, homework papers, and holding office hours to assist students in the completion of assignments. I performed

these duties for the following classes: Fluid Mechanics, Heat Transfer, Thermodynamics, and Descriptive Geometry classes.

WORK EXPERINCE

I gain lots of knowledge when giving courses and tutorials to students. Additionally, I supervise graduate-projects that include Thermal Systems such as steam power plant and thermal fluids.

Teaching courses (Thermodynamics, Fluid Mechanics, Heat Transfer, Numerical Methods, Incompressible Flow machines, Wind Energy and Gas Dynamics).

Project Supervision (2018-present): I supervise graduate-projects that include:

- A mathematical model for the selection of an economical pipe size in Abu-Attofel Field.
- Optimum Insulation Thickness for Building Exterior Walls in Tripoli using Sensitivity Analysis.
- Improving Energy Performance of Residential Building Based On Photovoltaic Information Model
- Optimization and Exergoeconomic Analysis of steam generation solar power plant
- Parametric Investigation and Performance Simulation of Exchanger Based on ANSYS
- Exergoeconomic Analysis and Parametric Investigation of a gas turbine power plant
- Dynamic heat-transfer characteristics of building external walls and optimization of insulation thickness.
- Parametric simulation study for Insulations Wall and Photovoltaic Model for Residential Building
- Parametric simulation study for green roof and Photovoltaic Model for Residential Building
- Exergoeconomic and Sensitivity Analyses of a gas turbine power plant
- Thermodynamic and Thermoeconomic operation optimization of 400MW Steam power plant.

• **Software Packages** I have a very well experience with using various software's that include:

-  ANSYS
-  EES
-  WATERCAD
-  Energy Plus
-  HYSIS
-  MATLAB
-  EPANET
- Microsoft Excel, PowerPoint, Microsoft Word, Microsoft Visio drawing, Mendeley, and Outlook.

SOFT SKILLS

- Adaptability
- Collaboration
- Strong Work Ethic
- Communication.
- Interpersonal.
- Creativity.
- Innovation.
- Enthusiasm
- Attention to Detail

LANGUAGES

Arabic: Mother Language,

English: Limited working proficiency.