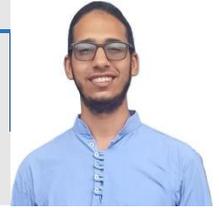


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Summary

- Over 4 years' experience in battery thermal management systems simulation using COMSOL Multiphysics and assisting in the teaching of Mechanical power courses.
- First-author of three research papers in the field of battery thermal management. Two of them have been published, including one in a Q1-ranked journal with an impact factor of 5. The third manuscript is currently under preparation.

Education

March 2025: **M.Sc. Mechanical Power Engineering, Assiut University, Egypt**

(Defense)

**Mandatory
Egyptian Military
Service for 14
months**

- Cumulative grade point average on M.Sc. Coursework (2021): **3.95/4**
- Thesis title: Studying the Effect of Liquid Cooling on the Performance of Lithium-ion Battery Cells.

July 2019: **B.Sc. Mechanical Engineering, Assiut University, Egypt.**

- Cumulative average grade: **Distinction with Honors (92.83 %)**
 - Ranked 1st out of (120) students in the Mechanical Engineering Department.
- Graduation project grade: Distinction (148/150).
 - Title: Air cooling system using vortex tube.

Publications

Journal Papers

1. A.M. Abdel-Hafeez, M.B. Effat, O. Hassan, and N.Y. Abdel-Shafi, Effect of intercell spacing and operating conditions on the performance of prismatic lithium-ion batteries cooled by dielectric immersion Fluids: A numerical study. International Journal of Thermal Sciences, 2025. **211**: p. 109680.

Journal Ranking: Q1, Impact factor: 5, Site Score: 9.9.

<https://doi.org/10.1016/j.ijthermalsci.2025.109680>.

2. A.M. Abdel-Hafeez, M.B. Effat, O. Hassan, and N.Y. Abdel-Shafi, A Numerical Study on the Thermal Management of Cylindrical Lithium-ion Batteries by Immersion Cooling: Effect of Coolant Distribution. Journal of Engineering Research, 2024. 8(5).

<https://digitalcommons.aaru.edu.jo/erjeng/vol8/iss5/7>.

Conference Presentations

3. A.M. Abdel-Hafeez, M.B. Effat, O. Hassan, and N.Y. Abdel-Shafi, A Numerical Study on the Thermal Management of Cylindrical Lithium-ion Batteries by Immersion Cooling: Effect of Coolant Distribution. CONSERVATION AND SUSTAINABILITY OF ENERGY CONFERENCE” (CSE – 2024) November 26 - 28, 2024, Ismailia – Egypt.

Research Experience

2025 –Present Peer Review Activities

- Reviewed 6 research manuscripts for *International Journal of Thermal Sciences* (Elsevier).
 - Impact factor: 5.
 - Site Score: 9.9.
- Reviewed a research manuscript for *Energy* (Elsevier).
 - Impact Factor: 9.4.
 - Site Score: 16.5.

2024

Aug 25th- Aug 31st

Sakura Science Program, Kanazawa University, Japan.

Renewable energy workshop.

- Lectures on Wind, Photovoltaics, Small Hydro, and Fuel Cells; Laboratory Tour; Social Event.
- Site Visit to Mikuni wind farm and Mikuni mega solar power plant.
- Site visit to Miyatake small hydro.
- Group work.

2021 –Present Research Assistant, Assiut University, Egypt.

- Simulated battery thermal management systems using COMSOL Multiphysics.

Teaching Experience

Mar. 2025–
Present
(Full-time)

Assistant Lecturer, Mechanical Engineering, Assiut University, Egypt.

- Courses: Hydraulic Pumps and Turbines, Mechanical Power Lab, and Engineering Drawing.

Dec. 2020 –
Mar. 2025
(Full-time)

Demonstrator (Teaching Assistant), Mechanical Engineering, Assiut Univ., Egypt.

- Courses: Thermodynamics (2), Heat Exchangers, Hydraulic Pumps and Turbines, Internal Combustion Engines, and Engineering Drawing.
 - Preparing the tutorial problems and quizzes for the student.
 - Demonstrating the problems in tutorials.
 - Explaining concepts in one-on-one meetings with students.
 - Marking a variety of assessment formats: assignments, demonstrating the projects, technical examinations.
 - Administrating work related to the faculty of engineering (Equipment Inspection).

Skills

- **Software skills:** COMSOL, AutoCAD, SolidWorks, Microsoft office (Good in word, excel, power point and adequate in others).
- **Language:** Arabic (Native), and English-Good- obtained a score of 100 on the Duolingo English Test (All academic coursework and thesis work during both Bachelor's and Master's programs were conducted entirely in English).

References

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