

Dr. Mahmoud A. Alnaanah

Homepage: https://sites.google.com/view/malnaanah/

Github: https://github.com/malnaanah/

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Summary

Multidisciplinary academic experience in the different branches of electrical engineering (Power, Telecommunications, and Computer). Research interest in Signal/Image Processing and Neural Networks, and an advocate of open-source software and Linux operating system.

Education

2014-2019:	**Ph.D. Electrical/Electronic Engineering.** Staffordshire University, United Kingdom. Thesis Title:"**Optimisation of Tamper Localisation and Recovery Watermarking Techniques**"
2003 -2006:	**M.Sc. Degree in Telecommunication Engineering**. Mutah University, Jordan. Thesis Title "**Combining Fractal Image Compression with Commonly Used Techniques**." *Total grade of 85.11% (Excellent)*
1997-2002:	**B.Sc. Degree in Electrical Engineering**. University of Jordan, Jordan. *Total grade: 3.05 out of 4 . (very good)*
1996-1997:	**General secondary stage**. Qadeseyyah Secondary School, Jordan. *Percentage Average (89.2%), Percentage Rank (91.2%)*

Job Experience

8/4/2025 - now	***Associate professor*** *Electrical Engineering Department, Al-Hussein Bin Talal University, Jordan.*
3/10/2022 – 28/10/2025	***Head of Electrical and Telecommunications Engineering Departments*** *College of Engineering, Al-Hussein Bin Talal University, Jordan.*
1/4/2020 – 8/4/2022	***Assistant Professor*** Electrical Engineering Department, Al-Hussein Bin Talal University, Jordan.
10/12/2018 – 31/3/2020	***Renewable Energy Trainer*** Vocational Training Corporation, Jordan
13/9/2010 – 31/8/2014	***Full-time Lecturer*** Teleommunications Engineering Department, Al-Hussein Bin Talal University, Jordan.
3/2/2008 – 31/1/2010	***Full-time Lecturer.*** Electrical Engineering Department, Tafila Technical University, Jordan.
1/7/2005 – 2/2/2008	***Electrical Power Lab. Instructor*** Electrical Engineering Department. Tafila Technical University, Jordan.
6/3/2003 – 30/6/2005	***Electrical Power Lab. Instructor*** Electrical Engineering Department. Tafila Applied University College, Jordan.

Teaching Experience

Courses:
- Electric Machines I
- Electric Machines II
- Power Electronics
- Electrical Power Systems II
- Power System Protection
- Probability, and Random Variables.
- Image and Audio Processing
- Digital Communications
- Object Oriented Programming *(using C++)*
- Microprocessor and Assembly Language

Labs:
- Power System Simulator PST2200 (TERCO)
- Electric Machines Lab (Delorenzo)
- Protection System (Lab-Volt)
- 8086 Microcomputer Trainer MTS-86C (K&H)
- 8085 Microprocessor and Assembly Language Lab.
- Analog Control System ASC-1000 (K&H)
- Analog telecommunication Lab. (K&H)

Workshops:
- "Introduction to Open-Source and Linux Operating System"

Language Skills

English: Fluent (TOEFL IBT ,28th September 2013, Score : 95/120)

Awards

11/09/2014 – 11/07/2016: ***PhD Scholarship, ERASMUS MUNDUS PEACE ,*** Staffordshire University, United Kingdom

Publications

Alnaanah, Mahmoud A., Alrashdan, Mohd H. S., Hmeidi, Hamzah, Al-Soeidat, Mohammad, "ECG-Based Cardiac Arrhythmia Classification Using Coleeg Open-Source Framework", Journal of Electrical and Computer Engineering, 2026, 3193410, 11 pages, 2026.
➜ https://doi.org/10.1155/jece/3193410

Mohammad Raja Al-Soeidat, Ghadeer Al-Shabaan, Ahmad Salah, Mahmoud Alnaanah, Habes Khawaldeh. "Techno-Economic Optimisation of Grid-Connected PV under Regulatory Constraints: A University Case Study", Available at SSRN 6713090 (2026)
➜ https://doi.org/10.1016/j.rineng.2026.111999

Alnaanah, Mahmoud A., Amir Abu Al-Aish, Mohd HS Alrashdan, Mohammad Zayed Ahmed, Haitham A. Alasha'ary, and Hamzah Hmeidi. "An open-source low-cost TDOA-based sound source localization system." Bulletin of Electrical Engineering and Informatics 15, no. 3 (2026): 2178-2190.
➜ https://doi.org/10.11591/eei.v15i3.10523

Althunibat, Saud, Luae Al-Tarawneh, Mahmoud Alnaanah, Elmehdi Illi, and Marwa Qaraqe. "A novel low-complexity detection scheme for power-domain NOMA systems." Physical Communication (2025): 102912.
➜https://doi.org/10.1016/j.phycom.2025.102912

Mahmoud A. Alnaanah "ICTAL and Preictal Seizure Phase Detection with EEG Signals Using Coleeg Open-Source Software", International Journal of Industrial Electronics and Electrical Engineering (IJIEEE) , Volume-12,Issue-6 (Jun, 2024)
➜https://iraj.doionline.org/dx/IJIEEE-IRAJ-DOI-20925

Alrashdan M.H.S., Alnaanah M.A., Abu-Al-Aish A., Ahmed M.Z. "Design of Disc Magnetic Brake Using Taguchi Method" International Review of Electrical Engineering,Volume 18, Issue 4, Pages 283 – 290 ,2023
➜https://doi.org/10.15866/iree.v18i4.23348

Alrashdan, Mohd HS, Mahmoud Alnaanah, Zouhair Al-Qudah, and Amir Abu-Al-Aish. "T-Shape MEMS PMPG design at low frequency range using Taguchi method." Microsystem Technologies (2023): 1-10.
➜https://doi.org/10.1007/s00542-023-05443-8

Alnaanah, Mahmoud, Moutz Wahdow, and Mohd Alrashdan. "CNN models for EEG motor imagery signal classification." Signal, Image and Video Processing (2022 Jul 13, pp. 1 - 6).
➜ https://doi.org/10.1007/s11760-022-02293-1
Moutz Wahdow, Mahmoud Alnaanah, Ward Fadel, Andras Adolf, Csaba Kollod, and Istvan Ulbert . "Multi frequency band fusion method for EEG signal classification." Signal, Image and Video Processing (2022 Nov 27, pp1-5).
➜https://doi.org/10.1007/s11760-022-02399-6

Al-Sawalmeh, W., Alrashdan, M., Alnaanah, M., Alasha'ary, H., Daqrouq, K., "Study of the Effects of Control Factors on Speech Features Using Taguchi Method.", International Review of Electrical Engineering (IREE),(2022 , 17 (1), pp. 99 - 104).
➜ https://doi.org/10.15866/iree.v17i1.21145

Mahmoud Alnaanah, Moath Alsafasfeh, Ahmad Aljaafreh, Amir Abu-Al-Aish. "An Optimized Fragile Image Watermarking Method for Tamper Detection and Recovery Using SPIHT and Reed-Solomon Coding." Jordan Journal of Electrical Engineering, (2022, pp. 90 - 101)
➜ https://dx.doi.org/10.5455/jjee.204-1630865748

Alnaanah, Mahmoud, and Ahmad Aljaafreh. "A simplified method for off-line track matching for fleet managements." 2011 IEEE Jordan Conference on Applied Electrical Engineering and Computing Technologies (AEECT). IEEE, 2011.
➜ http://dx.doi.org/10.1109/AEECT.2011.6132522

Computer Skills

Linux: Installation, Command Line, Troubleshooting, Bash scripting.
Matlab: Scripting, SimuLink, GUI design, Image and Signal Processing, open-source alternatives (Scilab, Octave) .
Python: Deep Learning using TensorFlow, Numpy, MatPlotLib, etc.
Computer Maintenance: Troubleshooting/Installing, Linux/Windows/DOS.
Office tools: Microsoft-office, LibreOffice, Latex.
Other Programming languages: C/C++ (OOP), assembly (Intel 8086/8085). HTML, CSS, JavaScript

References

Dr. Dr Alison Griffiths, Stafforshire University, a.l.Griffiths@staffs.ac.uk
Dr. Abdel-Hamid Soliman, Stafforshire University, a.soliman@staffs.ac.uk
Dr. Saleh Al-Jufout, Tafila Technical University, drjufout@yahoo.com

Any required certificate/document will be provided on demand.