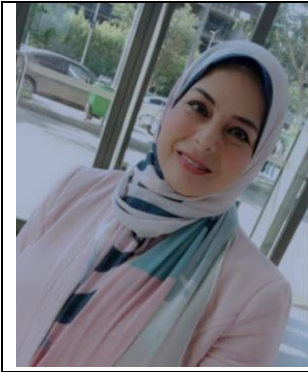


Hasnaa Mohamed Hassan El\_Arwash

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Electrical Power Engineering **assistant professor** with 7 years of academic experience, a PhD Degree in Harmonics Mitigation in desalination plants, 6 years experience as an executive director of a scientific research unit. Also, I am an external auditor accredited by the National Authority for Education Quality Assurance and Accreditation (NAQAAE). In addition to 25 years of practical experience in suction pumps maintenance, solar energy design and installation as a general manager in Ministry of irrigation, mechanical and electrical department. I'm a self-motivated person with a good communicative attitude, self-confident, fully understand the meaning of team work, cooperation and leadership and know how to realize potentials of my staff. I like to take the opinions and feelings of others in good account.

## Applying for Electrical Engineering Assistant Professor

### 1. Personal Data

Name	Hasnaa Mohamed Hassan EL-Arwash
Date of birth	August, 22, 1970
Nationality	Egyptian
Residence	Tanta
Passport no.	A24237020
e-mail	- <a href="mailto:harwash22@yahoo.com">harwash22@yahoo.com</a>
Alternatives	- <a href="mailto:hasnaa.mohamed@aiet.edu.eg">hasnaa.mohamed@aiet.edu.eg</a>
URL	- <a href="https://orcid.org/0000-0003-4877-4286">https://orcid.org/0000-0003-4877-4286</a> - <a href="https://www.webofscience.com/wos/author/record/AAK-1485-2020">https://www.webofscience.com/wos/author/record/AAK-1485-2020</a> - <a href="http://www.linkedin.com/in/hasnaa-elarwash-aa01211b1">http://www.linkedin.com/in/hasnaa-elarwash-aa01211b1</a> - <a href="https://www.scopus.com/authid/detail.uri?authorId=23980086500">https://www.scopus.com/authid/detail.uri?authorId=23980086500</a> - <a href="https://scholar.google.com/citations?hl=en&amp;user=yph65KMAAAAJ">https://scholar.google.com/citations?hl=en&amp;user=yph65KMAAAAJ</a> - <a href="https://www.researchgate.net/profile/Hasnaa-El-Arwash">https://www.researchgate.net/profile/Hasnaa-El-Arwash</a>

### 2. Education Degree

1. **PhD.** Degree in Electrical Engineering (Electrical power and Machines Engineering) - Faculty of Engineering, Tanta university, 2016.
2. **MSc.** in Electrical Power Engineering – Faculty of Engineering & Technology in Shebin El-Kom, Menoufia university, 2006.
3. **Diploma** Degree in Electrical Power Engineering – Faculty of Engineering , Tanta university, 2001.
4. **BSc.** in Electrical Power Engineering – Faculty of Engineering & Technology in Shebin El-Kom, Menoufia university, 1992.

### 5. Employment Data

1 <b>Period</b>	- Jan. 2023- Present
<i>Position</i>	- An external auditor for Education Quality Assurance and Accreditaion
<i>Place</i>	- The National Authority for Education Quality Assurance and Accreditaion (NAQAAE).
<b>Work Experience &amp; Skills</b>	- Review and prepare the necessary reports using the external auditor's report form for each of the following: <ul style="list-style-type: none"><li>• The structure and content of the program in accordance with the nature of the program and the nature of its scientific contents and graduates.</li></ul>

- Data accuracy and consistency of Academic standards applied.
- The possibility of achieving the intended educational results. Learning strategies and resources.
- Available teaching and learning facilities and student calendar.
- Preparing a clear and detailed report in accordance with the standards declared by the National Authority for Quality Assurance of Education on previous audits.

**2 Period**

**Position  
College**

Jan. 2019- Present

Scientific Research unit executive director  
Alexandria Higher Institute of Engineering & Technology (AIET)

**Work Experience  
& Skills**

- Preparing the institute's strategic plan
- Preparing the institute's research plan in line with the strategic plan and Egypt's vision for sustainability
- Creation of the scientific journal, Alexandria Higher Institute of Engineering and Technology.
- Magazine managing editor.
- Preparing the ethical charter regulating the work of researchers, including members of the faculty and the supporting staff, as well as students and employees, to achieve everyone's commitment to rights and duties
- Follow up on what has been implemented of the research and strategic plan of the institute and take corrective measures in case of non-compliance.
- Preparing and arranging the new generation of institute conference.
- Supervise announcing the call for papers for the international conferences and the research projects competitions enough time before the dead line.
- Manage many different cooperation protocols with different universities and another specialized research centers.
- Responsible of the research progress and qualify the post graduates theses progress.
- Supervise a scientific research unit page on the AIET home page.
- Support and supervise the international student teams such as google student club and IEEE student branch, Innovation center and Developer student club.

**3 Period**

**Position  
College**

May. 2017- Present

Assistant Professor – Mechatronics Department  
Alexandria Higher Institute of Engineering & Technology (AIET)

**4 Period**

**Position  
College**

Sep. 2016- May 2017

Assistant Professor – Technology branch  
Academy of Specialized Studies: Workers University

**Work Experience  
& Skills**

- Teach and collect the scientific subjects related to the course specifications for the following courses:
  - Industrial Electronics
  - Electromechanical systems
  - Electric power engineering,
  - Transformers and Electrical machines,
  - Electric circuits level I,
  - Electric circuits level II,
  - Introduction to Artificial Intelligence,
  - Theory of electric and electronic circuits,
  - Physics,
  - Electrical machine theory,
  - Power system engineering and
  - Graduation projects based on solar energy, Artificial Intelligence and the projects with Egyptian Space Agency.

- Reading and considering the exact needs, in the assigned lectures, analyzing.
- Assisting in the development of technical education programs for new systems staff.
- Supervising the training and laboratory experiments.
- Teaching and conducting students' evaluation and exams.
- Conducting original and innovative research.
- Providing consultations through AIET.
- Supervising students' research, and students' academic, cultural, and social activities.
- Follow up with students.
- Academic supervision.
- Participating in councils and committees.
- Devoting my time for my academic duties at the institute and maintaining AIET standing and reputation in the fields of teaching, research, and management.
- Contributing to community service according to the standards set by the AIET.
- Taking part in the institute's managerial activities.
- Implementing quality assurance and accreditation procedures and policies in all teaching and research activities taking place in all departments.

- |   |   |  |
|---|---|--|
| 5 | <b>Period</b>                                     | - September 2008- June 2009  |
|   | <b>Position<br/>College</b>                       | - Assistant Lecturer<br>- High Institute of Engineering & Technology in Kafer El-Sheikh  |
|   | <b>Work Experience<br/>&amp; Skills</b>           | - Agree on roles for assigned sections.<br>- Reading and considering the exact needs, in the assigned section, analyzing suppliers capabilities, defining the appropriate technique.<br>- Aware Of Standard Technologies, principles and terminologies used in Field.<br>- Co-ordinate with my team to get a view about the degree of opportunities and challenges according to the strategy of the institute. |
| 6 | <b>Period</b>                                     | Aug.2011- Jan. 2018  |
|   | <b>Position<br/>Company</b>                       | - Administration manager in motors workshop.<br>- Electrical and Mechanical Department - Ministry of Water Resources and Irrigation.   |
|   | <b>Duties</b>                                     | - Supervising the stator wound for single and three phase low voltage motors repairing, with power ratings up to 200 Hp.   |
| 7 | <b>Period<br/>Position<br/>Company<br/>Duties</b> | Feb.1994- Aug.2011<br>- System Engineer.<br>- Electrical and Mechanical Department at the Ministry of Irrigation.<br>- Database managing & processing.<br>- Suction pumps maintenance, solar system design and installation.   |
| 8 | <b>Period<br/>Position<br/>Company<br/>Duties</b> | Aug.1996- 1998<br>- Data Entry<br>- Hamad Medical Corporation- Qatar.<br>- Database managing & processing  |

## 6. Training courses

1. **A course in " Program Self-Evaluation: Faculties and Institutes of Higher Education" from August 1 to August 3, 2023 – The Presidency of the Council of Ministers the National Authority for Education Quality Assurance and Accreditation NAQAAE.**
2. **A course in "External Review of Higher Education Institutions" from January 29 to January 31, 2023 - Presidency of the Council of Ministers The National Authority for Education Quality Assurance and Accreditation NAQAAE.**
3. **A course on "Programs and Courses Description for Higher Education Institutions" from January 1 to January 3, 2023 - Presidency of the Council of Ministers - The National Authority for Education Quality Assurance and Accreditation NAQAAE**
4. **A course on "Self-Evaluation in Higher Education Institutions" from December 13 to December 15, 2022 - Presidency of the Council of Ministers - The National Authority for Education Quality Assurance and Accreditation NAQAAE**
5. **A course on "Examination Systems and Student Evaluation for Colleges and Institutes of Higher Education" from November 30 to December 1, 2022 - Presidency of the Council of Ministers - The National Authority for Education Quality Assurance and Accreditation NAQAAE**
6. **A course on "Effective Teaching and Learning Strategies for Colleges and Institutes of Higher Education" from November 28 to November 29, 2022 - Presidency of the Council of Ministers - The National Authority for Education Quality Assurance and Accreditation NAQAAE**
7. **A course on "Strategic Planning for Colleges and Institutes of Higher Education" from November 9 to November 10, 2022 - Presidency of the Council of Ministers - The National Authority for Education Quality Assurance and Accreditation NAQAAE**
  
8. **International Publishing of Research**, Faculty and Leadership Development Center, Alexandria university, Jan. 2021.
9. **Competitive Research Projects Proposals**, Faculty and Leadership Development Center, Alexandria university, Jan. 2021.
10. **Funded Research Implementation and Research Team Mangement**, Faculty and Leadership Development Center, Alexandria university, Dec.2020.
11. **Global Database Usage**, Faculty and Leadership Development Center, Alexandria university, Dec. 2020.
12. **Design and Production of Digital Content**, Faculty and Leadership Development Center, Alexandria university, Nov. 2020.
13. **Legal and Financial Aspects in University**, Faculty and Leadership Development Center, Alexandria university, Nov. 2020.
14. **PLC**, Ministry of Irrigation and Water Resources Training Center, 2008.
15. **ICDL**, Tanta University, Development Projects Unit, 2010.
16. **Management Training in the Water Sector**, Ministry of Irrigation and Water Resources Training Center, 2011.
17. **Local TOEFL, Total Score 510/600, 2020.**

## 7. Relevant Technical Skills

1. Biogas technology; production and optimization.
2. Design and Installation solar energy systems; on grid, off grid and irrigation pumps
3. Aware of electrical Industry Standard Technologies, principles and terminologies used in Field.
4. Design power systems using electrical engineering programming.
5. Ability to respond confidently to students' questions.

6. Sharing in Preparation and Integration of Electrical Engineering. Solutions including Motors, transformers ..., etc.
7. Aware of SCADA system.
8. Excellent PLC knowledge.
9. Familiar with configuration, installation and troubleshooting problems of electrical Equipments.
10. Valuable experience using Electrical Measurements, Equipments and Programs for solving problems.
11. Valuable experience in repairing low voltage single and three phase induction motors with different ratings.

## 8. Engineering consultant

### Duties

- Design biogas stations.
- Design Solar Energy Systems Stations.
- Studying and analyzing the submitted offers.
- Preparing the Feasibility study for Solar panel production lines.
- Preparing the Feasibility study for Inverter production lines.
- Preparing the Feasibility study for Solar Batteries production lines.

## 9. Published Papers

1. El Behairy, R.A.; [El Arwash, H.M.](#); El Baroudy, A.A.; Ibrahim, M.M.; Mohamed, E.S.; Kucher, D.E.; Shokr, M.S. How Can Soil Quality Be Accurately and Quickly Studied? A Review. *Agronomy* **2024**, *vol 14*, 1682. <https://doi.org/10.3390/agronomy14081682>
2. Mohamed El Amir Attalla, Ragab A. El-Sehiemy, [Hasnaa M. El Arwash](#), "Satellite Applications: FLC-MPPT Technique for PV Systems" *Engineering research journal, ERJ* 2024 Article 2, *vol. 47, Issue 3*, July 2024, Page 337-353 **2024**. <https://dx.doi.org/10.21608/erjm.2024.263628.1315>
3. Ahmed M. ABED, Ragab A. EL-SEHIEMY, Bachir bentouati and [Hasnaa M. El-Arwash](#) "Accurate Identification of Harmonic Distortion for Micro-Grids using Artificial Intelligence-Based Predictive Models", *IEEE Access*, vol. 12, pp. 83740-83763, **2024**. <https://doi.org/10.1109/ACCESS.2024.3400038>
4. El Behairy, R.A.; [El Arwash, H.M.](#); El Baroudy, A.A.; Ibrahim, M.M.; Mohamed, E.S.; Rebouh, N.Y.; Shokr, M.S., "An Accurate Approach for Predicting Soil Quality 2 Based on Machine Learning in Dry-lands", *Agriculture* **2024**, 14(4), 627, **2024**. <https://doi.org/10.3390/agriculture14040627>
5. Mohamed, E.S.; Jalhoum, M.E.M.; Belal, A.A.; Hendawy, E.; Azab, Y.F.A.; Kucher, D.E.; Shokr, M.S.; El Behairy, R.A.; [El Arwash, H.M.](#) "A Novel Approach for Predicting Heavy Metal Contamination Based on Adaptive Neuro-Fuzzy Inference System and GIS in an Arid Ecosystem", *Agronomy* **2023**, 13, 1873. <https://doi.org/10.3390/agronomy13071873>
6. El Behairy, R.A.; [El Arwash, H.M.](#); El Baroudy, A.A.; Ibrahim, M.M.; Mohamed, E.S.; Rebouh, N.Y.; Shokr, M.S. Artificial Intelligence Integrated GIS for Land Suitability Assessment of Wheat Crop Growth in Arid Zones to Sustain Food Security. *Agronomy* **2023**, 13, 1281. <https://doi.org/10.3390/agronomy13051281>
7. Mohamed Almir, [Hasnaa Alarwsh](#), Abdelwhab Nasser Allam, Abdelrahman Mohamed lofty, Haidy ahmed elsayed, Heba Elsayed fouad, "Design and Implementation of Nano Satellite (CubeSat)" *The 6th International Undergraduate Research Conference*, Volume 6, Issue 6, September **2022**, Page 1-5, <https://doi.org/10.21608/iugrc.2022.303069>.

8. Mohamed Alam, Anas Khamees, Tarek Aboelnaga, Abdelrahman Amer, Ahmed Harbi, Mohamed Alamir, [Hasnaa Alarwsh](#) (AIET), Osama A.Elsayed (EGSA), " Design and Implementation of an Onboard Computer and payload for Nano Satellite (CubeSat)", **5th IUGRC International Undergraduate Research Conference, Military Technical College**, Cairo, Egypt, Aug 9-12 Aug **2021**, [https://iugrc.journals.ekb.eg/issue\\_34926\\_34928.html](https://iugrc.journals.ekb.eg/issue_34926_34928.html)
9. [El-Arwash H.](#), Atalla, M. (**2021**). 'Improving the Satellite Power Supply Continuity using Flywheel Energy Storage System', **ERJ. Engineering Research Journal**, 44(4), pp. 365-375. [doi: 10.21608/erjm.2021.87309.1105](https://doi.org/10.21608/erjm.2021.87309.1105)
10. Mohamed El Amir Attalla, [Hasna M. El Arwash](#), 2021, Improving Solar Cell System Performance using Fuzzy Logic MPPT Technique under Environmental Condition Variations, **INTERNATIONAL JOURNAL OF ENGINEERING RESEARCH & TECHNOLOGY (IJERT)** Volume 10, Issue 06 (June **2021**). [doi:10.17577/IJERTV10IS060278](https://doi.org/10.17577/IJERTV10IS060278)
11. [H. M. El-Arwash](#), A. M. Azmy and E. M. Rashad, "A GA-based initialization of PSO for optimal APFS allocation in water desalination plant," **2017 Nineteenth International Middle East Power Systems Conference (MEPCON)**, Cairo, Egypt, pp. 1378-1384, **2017**, [doi: 10.1109/MEPCON.2017.8301363](https://doi.org/10.1109/MEPCON.2017.8301363).
12. [Hasnaa M. El-Arwash](#), Ahmed M. Azmy and Essam M. Rashad, " Optimal Harmonics Compensation in a Sea Water Desalination Plant", **Nonconventional Technology Review, Romania, Romanian Association of Nonconventional Technology**, vol. 19, no. 4, pp. 31-38, Dec. **2015**.
13. [Hasnaa M. El-Arwash](#), Ahmed M. Azmy and Essam M. Rashad, "On-line Harmonic Simulation and Evaluation in Electric Power Distribution Systems", **17th International Middle East Power Systems Conference, Mansoura University, Egypt, Dec. 15-17, 2015**. <https://www.researchgate.net/publication/288335583>
14. A. A. Abou El-Ela, S. Allam and [H. El-Arwash](#), " An Optimal Design of Single Tuned Filter in Distribution Systems", **Electrical Power System Research, El-Sevier**, vol. 78, no. 6, pp. 967-974, June **2008**. <https://doi.org/10.1016/j.epsr.2007.07.004>
15. A. A. Abou El-Ela, S. Allam and [H. El-Arwash](#), " An Optimal Design of Single Tuned Filter in Distribution Systems", **Engineering Research Journal, ERJ**, vol. 30, no. 1, pp. 1-8, Jan. **2007**.

## 10. Under published Papers

1. [Hasnaa M. El-Arwash](#), Almoataz Y. Abdelaziz, Ragab A. El-Sehiemy, " Optimal Harmonics Prediction for Distribution Systems Powered by Multi-Energy Sources Using Bidirectional Long-Short Term Memory Combined with Data Sequence".
2. [Hasnaa M. El-Arwash](#), Mona Gaffar, Ragab A. El-Sehiemy, " Deep Learning Algorithms-Based Optimal Harmonics Prediction for Distribution Systems Powered by Multi-Energy Sources".
3. [Hasnaa M. El Arwash](#), Ragab A. El-Sehiemy, Lamiaa A. Saeed, " Harmonic and Interharmonics Identification in distribution system using Deep learning".
4. [Hasnaa M. El-Arwash](#), Mona Gaffar, Ragab A. El-Sehiemy, " Optimal Harmonics Mitigation for Real Distribution System Supplied by Multi-Energy Sources using Machine Learning Algorithms".

## 11. Conferences

1. **The 21<sup>st</sup> International middle East Power Systems Conference, MEPCON 2019**
2. **Elsevier Research & Health solutions in collaboration with EKB at Pharous university in Alexandria 19 December, 2019.**

3. **The 4<sup>th</sup> International Undergraduate Research Conference (IUGRC-4) during July 5 - 8, 2019, in Cairo, Egypt. The Military Technical College, Cairo, Egypt.**
4. **2020 IEEE International Conference on Image processing society.**
5. **Webometrics ranking: key insights for improving Egyptian Universities Performance, 21<sup>st</sup> Feb. 2023.**
6. **The 5<sup>th</sup> International Undergraduate Research Conference (IUGRC-5) during 2021, in Cairo, Egypt. The Military Technical College, Cairo, Egypt.**
7. **The 6<sup>th</sup> International Undergraduate Research Conference (IUGRC-6) during 2022, in Cairo, Egypt. The Military Technical College, Cairo, Egypt.**

## **12. Revision**

1. IET (Institution of Engineering and Technology) journal
2. IEEE Transaction
3. IEEE Access
4. Journal of power electronics JPEL
5. Journal of Autonomous Intelligence.
6. MEPCON 2019 conference
7. ICES conference
8. Engineering Science and Technology, an International Journal

## **13. Professional Member Ship**

1. Egyptian Syndicate of Engineers (Electrical department)

## **14. Knowledge Work Related Software**

1. Python
2. C++
3. Matlab
4. ETAP
5. MS Access
6. MS Excel
7. MS Power Point
8. MS Word
9. MS Project Management

## **15. Operating System**

- Windows XP
- Windows 7
- Windows 10

## **16. Driving Licence**

Hasnaa Mohamed Hassan El\_Arwash  
Telephone no. : +201062400259 - +201111799422  
Email : [harwash22@yahoo.com](mailto:harwash22@yahoo.com)

Valid -29 years' Experience

## 17. Languages

	Spoken	Writing
Arabic:	Mother tongue	Fluent
English:	Very Good	Very Good
French:	Basic	Basic

### References:

**Ass. Prof. Dr. Ahmed Abed**, Ass. Professor, Mechatronics Engineering Department, Faculty of Engineering at Wadi EL-Dawasser, Prince Sattam University, Saudi Arabia. [A.abed@psau.edu.sa](mailto:A.abed@psau.edu.sa)

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