

## **Curriculum Vitae**

### **Amna Elhawil**

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### **Personal Facts**

Dr. Amna Elhawil

Full Professor – Computer Engineering

### **Education and Qualifications**

- 1997                      University of Tripoli, Computer engineering, Bachelor.
- 2004-2006              Vrije Universiteit Brussel (VUB), Applied computer science, Master  
(Grade of great distinction) .
- 2007-2010              Vrije Universiteit Brussel (VUB), Micro- and Photo-electronics  
(LAMI) group at the department of Electronics and Informatics  
(ETRO), PhD, (Grade of greatest distinction).

### **Employments**

- 1998 - 2000            Elsiar Company- Tripoli, computer engineer.  
Responsible for repairing and installation service for computers and  
printers, and also developing database programs.
- 2000 up to date      University of Tripoli, stuff member.
- 2023 up to date      Coordinator of Graduate Studies in the computer department

### **Work Experience**

1. Participated in preparing and writing the tender specifications document for developing database systems and wide area network for the engineering faculty. I also was a member of the tenders committee of that project.
2. Designed and implemented the studies and exams database software for 13 departments of the engineering faculty. I managed the project: designing the system, coding the system, performing task management, version control, unit testing, bug tracking etc.
3. Developed syllabus and overall course structure of the department, held many administrative and scientific positions including the head of the studies and exams committee, head of studying-program committee of the computer department.

4. Writing project proposals, reviewing papers, writing technical documents, research, guiding people, good software design and engineering skills.

## Relevant publications

### Journal Papers

1. L. X. Zhang, J. Stiens, **A. Elhawil** and R. Vounckx, *Multispectral illumination and image processing techniques for active millimeter-wave concealed object detection*, Applied Optics, Vol. 47, No. 34, pp. 6357-6365, 2008.
2. **A. Elhawil**, G. Koers, L. Zhang, J. Stiens and R. Vounckx, *Comparison between two optimisation algorithms to compute the complex permittivity of dielectric multilayer structures using a free-space quasi-optical method in w-band*, IET Science Measurement & Technology, Vol. 3, No. 1, pp.13-21, 2009.
3. **A. Elhawil**, G. Koers, L. Zhang, J. Stiens and R. Vounckx, *Reliable method for material characterisation using quasi-optical free-space measurement in w-band*, IET Science Measurement & Technology, Vol 3, No. 1, pp. 39-50, 2009.
4. **A. Elhawil**, J. Stiens, C. De Tandt, W. Ranson and R. Vounckx, *Equivalent Circuit Model of Single Circular Open-ring Resonators*, IEEE Journal of Selected Topics in Quantum Electronics, Vol. 16, No. 2, pp. 380-385, 2010.
5. **A. Elhawil**, C. Roda Neve, B. Olbrechts, I. Huynen, J.-P. Raskin, G. Poesen, J. Stiens and R. Vounckx, *Contactless monitoring of Si substrate permittivity and resistivity from microwave to millimetre wave frequencies*, Microwave and Optical Technology Letters, Vol. 52, No. 11, pp. 2500-2505, Nov. 2010.
6. **A. Elhawil**, J. Stiens, C. De. Tandt, W. Ranson and R. Vounckx, *Thin-film sensing using circular open ring resonators at mm-wave frequencies*, Special Issue of the Journal of Applied Physics A, 2010.
7. Turgut Ozturk, **Amna Elhawil**, Muharrem Dügenci, İlhami Ünal and İhsan Uluç, *Extracting the dielectric constant of materials using ABC-based ANNs and NRW algorithms*, Journal of Electromagnetic Waves and Applications, Vol. 30, Issue 13, 2016.
8. Turgut Ozturk, **Amna Elhawil**, İhsan Uluç, Muhammet and Tahir Guneser, *Development of extraction techniques for dielectric constant from free-space measured S-parameters between 50 and 170 GHz*, Journal of Materials Science: Materials in Electronics, Vol. 28, Issue 15, pp 11543–11549, August 2017.
9. **A. Elhawil**, A. Alsellami, S. A. Talha, I. Mohamed and R. Awein, *Steganography Technique to Hide a Secret Message in QR Code*, The International Journal Of Engineering And Information Technology (Ijeit), Vol.4, No.2, pp.12-16, Jun. 2018.
10. Amna Elhawil, Youssef Gdura and Hajer Elhamrouni, *Low-cost Arabic SMS Text Messages*, Journal of pure & Applied sciences (JOPAS), Vol. 17, No 1, pp 183-187, Feb 2018.
11. Y. Trabelsi, N. B. Ali, **A. Elhawil**, R. Krishnamurthy, M. Kanzari, I. S. Amiri, P. Yupapin, *Design of structural gigahertz multichanneled filter by using generalized Fibonacci superconducting photonic quasicrystals*, Results in Physics, vol. 13, June (2019) 102343.
12. **A. Elhawil**, Y. Trabelsi and M. Mahfoud, *Comparison between the NB and SVM Methods for Multiclass Arabic Sentiment Analysis*, 2021 IEEE 1st International Maghreb Meeting of the Conference on Sciences and Techniques of Automatic Control and Computer Engineering MI-STA, 2021, pp. 913-917, doi: 10.1109/MI-STA52233.2021.9464487.
13. A. kraza, Nabil Drawil, **A. Elhawil**, *Efficient Real-Time Executive for ARM-Based Microcontroller*, 2022 IEEE 2nd International Maghreb Meeting of the Conference on Sciences and Techniques of Automatic Control and Computer Engineering (MI-STA) Sabratha, Libya 23-25 May 2022, DOI: 10.1109/MI-STA54861.2022.9837643.

### Conference Papers

14. J. Stiens, L. X. Zhang, **A. Elhawil**, I. Jäger, G. Koers, H. Sahli and P. Schelkens, *Multidimensional illumination and image processing techniques in the w-band for recognition of concealed objects*. In Proceedings of SPIE, the International Society for Optical Engineering. Vol. 6696, No. 2, pp. 66960R.1-66960R.8, 2007.

15. **A. Elhawil**, L. Zhang, J. Stiens, C. De. Tandt, W. Ranson and R. Vounckx, *A Quasi-optical Free-space Method for Dielectric Constant Characterisation of Polymer Materials in mm-wave Band*, In Proceedings of IEEE/LEOS symposium Benelux Chapter, pp. 187-190, Brussels, Belgium, Dec., 2007.
16. **A. Elhawil**, J. Stiens, N. Gotzen, G. Van Assche and R. Vounckx, *Investigation of Dielectric Properties of Polymers at mm-wave Band using Quasi-optical Free Space Method*, In Proceedings of the 14th Microoptics conference (MOC08), Brussels, Belgium, Sep., 2008, CD-ROM.
17. **A. Elhawil**, J. Stiens and R. Vounckx, *Negative Effective Permeability and Permittivity at W-band*, In Proceedings of the 14th Microoptics conference (MOC08), Brussels, Belgium, Sep., 2008, CD-ROM.
18. **A. Elhawil**, C. De Tandt, S. Islam, I. JÄager, L. Zhang, F. Ann, J. Stiens and R. Vounckx, *Characterisation of Left-handed Materials with Quasi-optical Method in Millimetre Wave Band*, In Proceedings of Metamaterials for Secure Information and Communication Technologies (META08), Marrakesh, Morocco, May, 2008, CD-ROM.
19. I. JÄager, **A. Elhawil**, J. Stiens and R. Vounckx, *Multispectral Millimetre wave Imaging with Metamaterials*, In Proceedings of the 4th EOS Topical Meeting on Advanced Imaging Techniques, pp. 26-27, Jena, Germany, Jun., 2009.
20. **A. Elhawil**, J. Stiens, C. De. Tandt, W. Ranson and R. Vounckx, *Left-handed metamaterial at D-band with single circular-split ring resonators*, In Proceedings of the 14th Annual Symposium of the IEEE Photonics Benelux Chapters, pp. 73-76, Brussels, Belgium, Nov. 2009.
21. **A. Elhawil**, J. Stiens, C. De. Tandt, W. Ranson and R. Vounckx, *Thin-film sensing using circular open ring resonators at mm-wave frequencies*, In Proceedings of International Conference on Metamaterials, Photonic crystals and Plasmonics (META10), Cairo, Egypt, Feb., 2010, CD-ROM.
22. **A. Elhawil**, J. Stiens, C. De. Tandt, W. Ranson and R. Vounckx, *An experimental study of the effects of various parameters on the resonant and efficiency of circular split-ring resonators*, In Proceedings of SPIE Photonics Europe 2010, Brussels, Belgium, Apr., 2010.
23. **A. Elhawil**, I. Huynen, J.-P. Raskin, C. R. Neve, J. Stiens and R. Vounckx, *Quasi-optical technique for sensing bond quality of silicon wafers*, In Proceedings of SPIE Photonics Europe 2010, Brussels, Belgium, Apr., 2010.
24. I. JÄager, **A. Elhawil**, J. Stiens and R. Vounckx, *Power measurements of nonlinearity of metamaterials operating at mm-wave range*, In Proceedings of SPIE Photonics Europe 2010, Brussels, Belgium, Apr., 2010.
25. A. Abidi, **A. Elhawil**, J. Stiens, R. Vounckx, J.B.Tahar , F. Choubani, *Sensing Liquid Properties Using Split-Ring Resonator in Mm-wave Band*, , In Proceedings of IECON-2010, Phoenix, AZ, USA, Nov. 2010.
26. **A. Elhawil**, J. Stiens, C. De. Tandt, W. Ranson and R. Vounckx, *Thin-film sensing using circular open ring resonators at mm-wave frequencies*, Applied Physics A, Special Issue: "Advances in Metamaterials and Photonics", 1322, Dec. 2010.
27. B. Zhu, S. Vanlooche, J. Stiens, D. De Zutter, **A. Elhawil**, R. Vounckx, *A Novel 3D printed focusing probe in scattering-type scanning near-field millimeter & Terahertz wave microscopy*, European Conference on Antennas and Propagation 2011 , Rome, Italy, 11-15 Apr. 2011.
28. **A. Elhawil** , Saad A. Talha , M. Almezoghi and K. AbdiEljwad, *A Developed Text Compression Method for Image Steganography*, 1st Conference of Industrial Technology (CIT2017), University of Misrata – Libya, June 2017.
29. **Amna Elhawil**, Youssef Gdura and Hajer Elhamrouni, *Low-cost Arabic SMS Text Messages*, The First International Conference on Science and Technology, 1<sup>st</sup> ICST-2017, Sabha-Libya, Feb 2018.
30. **A. Elhawil** , Saad A. Talha , M. Almezoghi and K. AbdiEljwad, *A Developed Text Compression Method for Image Steganography*, Libyan International Conference on Electrical Engineering and Technologies (LICEET 2018), Tripoli– Libya, March 2018.
31. Youssef Gdura, **Amna Elhawil**, Ali Moftah Balaid, *A Client-Server Application to Avoid Unexpected Traffic Congestion*, The Libyan International Conference on Electrical Engineering and Technology LICEET 2018, Tripoli– Libya, March 2018.
32. **A. Elhawil**, Y. Trabelsi and M. Mahfoud, *Comparison between the NB and SVM Methods for Multiclass Arabic Sentiment Analysis*, 2021 IEEE 1st International Maghreb Meeting of the Conference on Sciences and Techniques of Automatic Control and Computer (MI-STA'2021), May 2021.

33. Ayoub Muftah, **Amna Elhawil**, Youssef Omran Gdura, *Virtual Mouse Control through Natural User Interface*, Libyan Conference on Automation and Robotics (LCAR 2021), July 2021, Tripoli.
34. **Amna Elhawil**, Alarabi Naji, Malak Nuesry, and Almabruk Sanossi, *Groundwater Level Forecasting Using Random Forest and Linear Regression Neural Network Models*, International Engineering Conference 2021-Misurata University (IEC2021-MU), Nov. 2021, Misurata-Libya
35. Suher ElBasha, **Amna Elhawil** and Nabil Drawil, *Multilingual Sentiment Analysis to Support Business Decision-making via Machine learning models*, Third Engineering Conference- The Role of Technology in Country Building & Sustainable, Dec. 2021, Zawia -Libya
36. **Amna Elhawil**, Suher ElBasha and Nabil Drawil, *Impact of Neural Machine Translation on Monolingual and Multilingual Arabic Sentiment Analysis*, International Libyan Conference for Information and Communications Technologies (ILCICT 2022), March 2022, Tripoli – Libya.
37. A. kraza, Nabil Drawil, **Aman Elhawil**, *Efficient Real-Time Executive for ARM-Based Microcontroller*, 2022 IEEE 2nd International Maghreb Meeting of the Conference on Sciences and Techniques of Automatic Control and Computer Engineering (MI-STA) Sabratha, Libya 23-25 May 2022.
38. A. Eldukali and A. Elhawil, *"Identifying Bird Calls in Soundscapes Using Convolutional Neural Networks"*, International Libyan Conference for Information and Communications Technologies 2023 (ILCICT 2023), April 2023

#### Award

1. "An experimental study of the effects of various parameters on the resonant and efficiency of circular split-ring resonators" won the best paper award at the Photonics Europe Conference, Brussels, Belgium, 2010.

**Signature:**  
Elhawil Amna

**Date:**  
Sep. 2024