Curriculum Vitae

Personal Information

Name: Fatmaelzahraa Ahmed AbdelGhani Mohamed Elnagouli Elgamal

Nationality: Egyptian

Gender: Female

Marital Status: Single

Date of Birth: 10-09-1988

Current Job:

- Assistant Professor at Information Technology Department, Faculty of Computers and Information, Mansoura University, Egypt.

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- 29 AbdelSattar Amin St. in front of Faculty of Arts, Mansoura, Dakahlia, Egypt.

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- 60 Elgomhoria Str., Department of Information Technology, Faculty of Computers and Information, Mansoura University, 35516 Mansoura, Egypt.

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Education

Doctorate in Information Technology: Information Technology Department, Mansoura University, Egypt, 2019.

- **Thesis title**: A Novel, Personalized Diagnostic System for Early Diagnosis of Alzheimer's Disease.

Master's Degree in Information Technology: Information Technology Department, Mansoura University, Egypt, 2013.

- **Thesis title:** Cloud Computing Data Security.

Bachelor in Information Technology: Information Technology Department, Mansoura University, Egypt, 2010.

- **Graduation Project:** Electronic Diagnosis.

Academic Experience

- **Assistant Professor:** Department of Information Technology, Faculty of Computers and Information, Mansoura University, Egypt, Jan 2020 – till now.

- **Visiting Scholar:** Bioengineering Department, Speed School of Engineering, University of Louisville, Louisville, KY 40292, USA, July 2016 - June 2019.

- **Assistant Lecturer:** Department of Information Technology, Faculty of Computers and Information, Mansoura University, Egypt, December 2013 – Jan 2020.

- **Demonstrator:** Department of Information Technology, Faculty of Computers and Information, Mansoura University, Egypt, January 2011 – December 2013.

Publications (Total=21)

Peer-Reviewed Journal Manuscripts:

[1] Nermeen Nader, **Fatma El-Zahraa El-Gamal**, Shaker El-Sappagh, Kyung Sup Kwak, and Mohammed Elmogy. **Kinship verification and recognition based on handcrafted and deep learning feature-based techniques**. PeerJ Computer Science 7 (2021): e735.

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[2] **El-Gamal, F.;** Elmogy, M.; Mahmoud, A.; Shalaby, A.; Switala, A.E.; Ghazal, M.; Soliman, H.; Atwan, A.; Alghamdi, N.S.; Barnes, G.N.; El-Baz, A. **Personalized Computer-Aided Diagnosis System for Mild Cognitive Impairment (MCI) Using Structural MRI (sMRI)**. Sensors 2021, 21, 5416. https://doi.org/10.3390/s21165416

[3] **El-Gamal, F.**; Elmogy, M.; Khalil, A.; Ghazal, M.; Yousaf, J.; Qiu, X.; Soliman, H.; Atwan, A.; Frieboes, H.; Barnes, G.; and El-Baz, A.: **Personalized Computer-Aided Diagnosis for Mild Cognitive Impairment in Alzheimer's Disease Based on sMRI and ^{11}C PiB-PET Analysis**, in IEEE Access, vol. 8, pp. 218982-218996, 2020, doi: 10.1109/ACCESS.2020.3038723.

[4] **El-Gamal, F.**, Elmogy, M.; Ghazal, M.; Atwan, A.; Casanova, M.; Barnes, G.; Keynton, R.; El-Baz, A.; and Khalil, A.: **A Novel Early Diagnosis System for Mild Cognitive Impairment Based on Local Region Analysis: A Pilot Study**, Frontiers in Human Neuroscience, Vol. 11, no. 643, pp. 1-10, 2018.

[5] **El-Gamal, F.**, Elmogy, M., Ghazal, M., Atwan, A., Casanova, M., Barnes, G., El-Baz, A., and Hajjdiab, H.: **Medical imaging diagnosis of early Alzheimer's disease,** Frontiers in Bioscience, Landmark, vol. 23, pp. 671-725, January 2018.

[6] **El-Gamal, F. A.**; Elmogy, M.; and Atwan, A.; **Current trends in medical image registration and fusion**, Egyptian Informatics Journal, vol. 17, no. 1, pp. 99-124, 2016.

[7] **Elgamal, F. E.-Z.A.**; Hikal, N.; and Abou-Chadi, F. E. Z.: **Secret Medical Image Sharing and EPR Data Embedding Scheme over Cloud Computing Environment**. International Journal of Computer Applications, vol. 69, no. 11, pp. 19-26, 2013.

[8] **Elgamal, F. E.-Z. A.**; Hikal, N.; and Abou-Chadi, F. E. Z.: **A Trust Management Scheme For Sharing Secure Medical Images Over Cloud Computing Environment**. Journal of Advances in Computer Networks, vol. 1, no. 3, pp. 201-207, 2013.

[9] **Elgamal, F. E.-Z. A.**; Hikal, N.; and Abou-Chadi, F. E. Z.: **Secure Medical Images Sharing over Cloud Computing environment**. Journal of Advances in Computer Networks, vol. 4, no. 5, pp. 130-137, 2013.

Book Chapters:

[1] **El-Gamal, F.**, Elmogy, M., Hajjdiab, H., Khalil, A., Ghazal, M., Mahmoud, A., Soliman, H., Atwan, A., Suri, J., Barnes, G., and El-Baz A. for the Alzheimer's Disease Neuroimaging Initiative.: **A local/regional computer aided system for the diagnosis of mild cognitive impairment**. In Neurological

Disorders and Imaging Physics, Volume 3, 2053-2563, pages 11–1 to 11–26. IOP Publishing, 2019.

[2] **El-Gamal, F.**, Elmogy, M., Khalil, A., Hajjdiab, H., Ghazal, M., Mahmoud, A., Soliman, H., Atwan, A., Barnes, G., and El-Baz, A.,: **Current trends and considerations of alzheimer's disease**. In Neurological Disorders and Imaging Physics, Volume 3, 2053-2563, pages 13–1 to 13–107. IOP Publishing, 2019.

Peer-Reviewed Conference Proceeding Manuscripts (full manuscript peer reviews):

[1] Reem El-Deeb, **Fatma El-Zahraa El-Gamal**, Nehal Sakr, Sara Elhishi, and Sara El-Metwally. "Unlocking the Public Perception of COVID-19 Vaccination Process on Social Media." In 2021 Tenth International Conference on Intelligent Computing and Information Systems (ICICIS), pp. 327-334. IEEE, 2021.

[2] Hadeel O. El-Sisi, **Fatma El-Zahraa A. El-Gamal**, and Noha A. Hikal. "Iridology-Based Human Health Examination." In 2021 17th International Computer Engineering Conference (ICENCO), pp. 7-13. IEEE, 2021.

[3] Sara Elhishi, Reem El-Deeb, **Fatma El-Zahraa Ahmed El-Gamal**, Nehal A. Sakr, and Sara El-Metwally. "Analyzing Public Perceptions Toward COVID-19 Vaccination Process Using Social Media and Machine Learning." In The 7th Annual International Conference on Arab Women in Computing in Conjunction with the 2nd Forum of Women in Research, pp. 1-4. 2021.

[4] **El-Gamal, F. A.**, Elmogy, M., Khalil, A., Ghazal, M., Soliman, H., Atwan, A., Keynton, R., Barnes, G. N., and El-Baz, A.: **A Local/Regional Based CAD System for Early Diagnosis of Alzheimer's Disease Using sMRI Scans**, IEEE International Conference on Imaging Systems and Techniques (IST'2019), Abu Dhabi, UAE, December 2019.

[5] **El-Gamal, F. A.**, Elmogy, M., Khalil, A., Ghazal, M., Soliman, H., Atwan, A., Keynton, R., Barnes, G. N., and El-Baz, A.: **A Significant Regional-based Diagnosis System for Early Detection of Alzheimer's Disease Using sMRI Scans**, 2018 IEEE International Symposium on Signal Processing and Information Technology (ISSPIT), Louisville, KY, USA, pp. 407-412, 2018.

[6] **El-Gamal, F.**, Elmogy, M., Atwan, A., Ghazal, M., Barnes, G., Hajjdiab, H., Keyntone, R., and El-Baz, A.: **Significant Region-Based Framework for Early Diagnosis of Alzheimer's Disease Using 11c Pib-Pet Scans**, In the processings of the 24th International Conference on Pattern Recognition (ICPR2018), Beijing, China, 2018.

[7] **El-Gamal, F.**, Elmogy, M., Abdelghani, A., Soliman, H., Atwan, A., Keynton, R., El-Baz, A., and Barnes, G.: **A Cortical Based Diagnosis System for MCI Based on sMRI Features Fusion**, IEEE International Conference on Imaging Systems and Techniques (IST'2018), October 2016, 2018, Krakow, Poland.

[8] **El-Gamal, F. El-Zahraa A.**, Elmogy, M., Ghazal, M., Atwan, A., Barnes, G., Casanova, M., Keynton, R., and El-Baz, A.: **A Novel CAD System for Local and Global Early Diagnosis of Alzheimer's Disease Based on PIB-PET Scans**, In the proceedings of IEEE International Conference on Image Processing: (ICIP'17), Beijing, China, September 17–20, 2017.

Abstracts Published in Proceedings:

[1] **El-Gamal, F.**, Elmogy, M., Khalil, A., Ghazal, M., Soliman, H., Atwan, A., Keynton, R., Barnes, G., and El-Baz, A.: **A Novel Functional-Structural Personalized CAD System for Early Diagnosis of Alzheimer's Disease**, Biomedical Engineering Society Annual Meeting (BMES 2019), Philadelphia, PA, October 2019.

[2] **El-Gamal, F.**, Elmogy, M., Khalil, A., Ghazal, M., Soliman, H., Atwan, A., Keynton, R., Barnes, G., and El-Baz, A.: **A Regional Based Diagnosis System of Mild Cognitive Impairment by Fusing Geometric Features of sMRI**, Biomedical Engineering Society Annual Meeting (BMES 2019), Philadelphia, PA, October 2019.

[3] **El-Gamal, F.**, Qiu, X., Elmogy, M., Ghazal, M., Soliman, H., Atwan, A., Keynton, R., Barnes, G., and El-Baz, A.: **Feature Fusion Based CAD System for a Detailed Diagnosis of Mild Cognitive Impairment Diagnosis Using sMRI**, Society for Neuroscience Meeting (Neuroscience 2018), San Diego, CA, USA, Nov 3-7, 2018.

[4] **El-Gamal, F.**, Elmogy, M., Ghazal, M., Soliman, H., Atwan, A., Keynton, R., Jagadapillai, R., El-Baz, A., and Barnes, G.: **A Significant Regional Based Diagnosis Framework of Alzheimer's Disease Using ^{11}C PIB-PET Scans**, Society for Neuroscience Meeting (Neuroscience 2018), San Diego, CA, USA, Nov 3-7, 2018.

[5] **El-Gamal, F.**, Elmogy, M., Ghazal, M., Soliman, H., Atwan, A., Keynton, R., Barnes, G., and El-Baz, A.: **A Novel Detailed CAD System for Mild Cognitive Impairment Diagnosis Based on Feature Fusion of sMRI**, Biomedical Engineering Society Annual Meeting (BMES 2018), October 2018.

[6] **El-Gamal, F.**, Elmogy, M., Ghazal, M., Soliman, H., Atwan, A., Keynton, R., Barnes, G., and El-Baz, A.: **A Novel Significant Based CAD System of**

Alzheimer's Disease using 11C PIB-PET Scans, Biomedical Engineering Society Annual Meeting (BMES 2018), October 2018.

[7] **El-Gamal, F.**, Elmogy, M., Atwan, A., Ghazal, M., Casanova, M., Barnes, G., Khalil, A., and El-Baz, A.: **A Novel Early Diagnosis System for Alzheimer's Disease Based on Local based Analysis Using 11C PiB PET Scans**, Biomedical Engineering Society Annual Meeting (BMES 2017), October 2017.

Patents:

[1] El-Baz, A., **El-Gamal, F.**, Elmogy, M., and Barnes, G.: **Computer Aided Diagnosis System for Mild Cognitive Impairment**, United States. Pub. No. 2020/0126221 A1. Pub. Date Apr. 23, 2020.

Honors and Awards

- Best doctoral dissertation award, Mansoura University, Egypt (2020).

- Honorary shield for outstanding scholarly contributions, Department of Bioengineering, University of Louisville, Louisville, KY, USA (2019).

Grants

Joint supervision mission from the Ministry of Higher Education, Egypt (2016).

Research Interests

- Medical image analysis

- Artifical intelligance

- Machine learning

- Computer vision

- Image processing

- Pattern recognition

- Information security

Teaching experience (as a Lecturer)

- Bioinformatics

- Physics

- Digital signal processing

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- Digital image processing

- Fundamentals of Information Technology

- Human computer interaction

- Soft computing

- Biometrics

- Technical scientific writing

Teaching experience (as a Demonstrator /Assistant Lecturer)

- Medical image analysis

- Operations research

- Research methodology

- Discrete mathematics

- Computer vision

- Human computer interaction

- Linear algebra

- Image processing

- Electronics

Training and Academic Courses/Seminars

1. Seminar Title: **Publish your Research Open Access with Springer Nature Founded by STDF in collaboration with EKB-Egypt**, Mansoura University, 25/5/2022.

2. Course Title: **Freelancing Skills TOT**, from 17/4/2022 to 20/4/2022.

3. Course Title: **Training for Egypt Award for Government Excellence**, Mansoura University, from 26/01/2020 to 27/01/2020.

4. Course Title: **Local and Global Competitive Research Projects,** University Development Center, Mansoura University, from 22/09/2019 to 23/09/2019.

5. Course Title: **Time and Meatings Management,** University Development Center, Mansoura University, from 17/09/2019 to 18/09/2019.

6. Course Title: **How to Write a Scientific Article,** University Development Center, Mansoura University, from 08/09/2019 to 09/09/2019.

7. Course Title: **Strategic Planning,** University Development Center, Mansoura University, from 11/08/2015 to 12/08/2015.

8. Course Title: **Conference Organization,** University Development Center, Mansoura University, from 14/06/2015 to 15/06/2015.

9. Course Title: **The Credit Hour Systems,** University Development Center, Mansoura University, from 18/01/2015 to 19/01/2015.

10. Course Title: **Ethics of Scientific Research (Code of Ethics),** University Development Center, Mansoura University, from 08/12/2013 to 09/12/2013.

11. Course Title: **Using Technology in Teaching,** University Development Center, Mansoura University, from 27/10/2013 to 28/10/2013.

12. Course Title: **Applying Academic Standards for Educational Program,** University Development Center, Mansoura University, from 20/10/2013 to 21/10/2013.

13. Course Title: **Legal and Financial Aspects in University Environment,** University Development Center, Mansoura University, from 29/09/2013 to 30/09/2013.

14. Course Title: **Effective Communication Skills,** University Development Center, Mansoura University, from 09/06/2013 to 10/06/2013.

15. Course Title: **Effective Presentation Skills**, University Development Center, Mansoura University, from 26/02/2012 to 28/02/2012.

References

Available upon request.