HANAA ALY SAYED ALY

Scholar Profiles

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EDUCATION

2007–2014 PhD, Faculty of Science, Assiut University, Assiut, Egypt

Dissertation title: **Outdoor Image Compression Based on Sky Replacement**

Supervisor:

Prof. Dr Salah El-din El Gendi

Prof. Dr Khaled Fathee Hussain

2000–2006 Master computer science, Faculty of Science, Assiut University

Thesis title: **Translation of Arabic Text to Sign Language by Computer Animation**

Supervisor:

Prof. Dr Salah El-din El Gendi

Prof. Dr Yousef B. Mahdy

1994–1999 Bachelor of computer science, Faculty of Science, Assiut University

ACADEMIC EMPLOYMENT

2019–Present	Assistant Professor, Taibah University, Yanbu, KSA.
2014-2019	Lecturer (US Equivalent Rank: Assistant Professor), Assiut University, Assiut, Egypt.

2006–2014	Assistant Lecturer, Assiut University, Assiut, Egypt.
2000–2006	Tutor, Assiut University, Assiut, Egypt.

TEACHING

- Advanced Computer Vision
- Software Analysis &Engineering
- Web design and development
- Database
- Distributed Computation
- Computer Graphics
- Network
- Data Communication
- Web Design
- Programming (eg. C++, Java, Matlab and Python)
- Software modeling
- Discrete structures

RESEARCH INTEREST

- Digital Image and Video Processing
- Image Feature Extraction
- Pattern Recognition and Computer Vision
- Distributed Computation
- Machine Learning
- Object Detection and Clustering

CURRENT RESEARCHS

- Object Detection and Annotation in Outdoor Images
- Deep Learning Approach for Detecting Digital Elevation Model (DEM) Uncertainty to Enhance Assessment of Water Resources
- Deep Learning Approach for Catchment Detection
- Efficient Deep Learning Approaches for Medical Imaging
- Inclusive Smart Cities

UNDERGRADUATE PROJECTS:

- Graphical Tour in Mathematics Department Faculty of Science, Assiut University, Assiut, Egypt.
- Android Application for Diagnosing Skin Diseases.
- Graphical Simulation for Physics Lab Experiments.
- Interactive Campus Map.
- Android Application for Learning Arabic Language
- Game Based Learning Application
- Mental Signs Recognition
- ASL your way to comunicate

EXPERIENCE

- Member in Examination Committee
- Supervisor in the student's computer lab
- Member in graduation projects committee
- Member of the Academic Timetables Committee
- Member of the Social Responsibility Committee
- Member of the Quality Committee

Research Supervision

- PhD Students
  1. Sara Tarik Kamal
  2. Fatma Abd-Alhaleem
- Master Students
  3. Essam khalifa
  4. Asmaa Abass
  5. Anoud AbdElaziz

PUBLICATIONS

[1] K. Hussain, H. Sayed, "Enhancement of Sky and Cloud Type Classification", Proceedings of the 1st IEEE/IIAE International Conference on Intelligent Systems and Image Processing 2013 , pp. 179-185, 2013. **(Achieved Best Presentation Award)**

[2] Khaled Hussain, and Hanaa Sayed. "Sky Detection Using K-HSV Descriptor." Journal of the Institute of Industrial Applications Engineers Vol. 2, No. 1, pp 1-5, Jan. 2014.

[3] Khaled F. Hussain, and Hanaa A. Sayed. "Annotated Outdoor Image Compression Based on Sky Replacement" in the Proceedings of The 27th International Conference on Computer Theory and Applications (ICCTA 2017), pp 32-37.

[4] Hanaa A. Sayed, Moetaz A. Barakat, Mohamed A. Mohamed, Taha H. Awad and Ayman S. Fahmy" ɛElmni- An Android Application For Teaching Arabic Language And Arabic Literacy", International Journal of Computer Science and Mobile Applications, Vol.7 Issue. 3, 2019, pp. 1-7

[5] Hanaa A. Sayed, Ahmed M. Sefelnasr and Essam Kh.Abd-Elmaged. "Deep Learning Approach for Detecting Digital Elevation Model (DEM) Uncertainty to Enhance Assessment of Water Resources", in the Proceedings of the 29th International Conference on Computer Theory and Applications (ICCTA 2019).

[6] Hanaa A. Sayed, Ahmed M. Sefelnasr and Essam Kh.Abd-Elmaged. "Deep Learning Approach for Catchment Detection in Assiut-Egypt". Assiut University Journal of Multidisciplinary Scientific Research (AUNJMSR), pp. 21-39, Vol. 51, 2022

[7] A. A. Mahmoud, H. A. Sayed and S. S. Mohamed, "Variant Wasserstein generative adversarial network applied on low dose ct image denoising," Computers, Materials & Continua, vol. 75, no.2, pp. 4535–4552, 2023.

[8] H. A. Sayed, A. A. Mahmoud and S. S. Mohamed, 3D Magnetic Resonance Image Denoising using Wasserstein Generative Adversarial Network with Residual Encoder-Decoders and Variant Loss Functions. (IJACSA) International Journal of Advanced Computer Science and Applications, Vol. 14, No. 8, 2023

[9] El-Agamy, Rasha F., Hanaa A. Sayed, Arwa M. AL Akhatatneh, Mansourah Aljohani, and Mostafa Elhosseini. "Comprehensive analysis of digital twins in smart cities: a 4200-paper bibliometric study." Artificial Intelligence Review 57, no. 6 (2024): 154.

[10] Elhosseini, Mostafa A., Hanaa A. Sayed, Rasha F. El-Agamy, Amna Bamaqa, Malik Almaliki, Tamer Ahmed Farrag, Hanaa ZainEldin, and Mahmoud Badawy. "A hybrid YOLOv10—Faster R-CNN framework for mobility-aid detection and traffic optimization in disability-inclusive smart cities." Alexandria Engineering Journal 129 (2025): 1279-1298.

[11] Badawy, Mahmoud, Amr Rashed, Amna Bamaqa, Hanaa A. Sayed, Rasha Elagamy, Malik Almaliki, Tamer Ahmed Farrag, and Mostafa A. Elhosseini. 2025. "From Sensors to Insights: Interpretable Audio-Based Machine Learning for Real-Time Vehicle Fault and Emergency Sound Classification" Machines 13, no. 10: 888. https://doi.org/10.3390/machines13100888

[12] Farsi, Mohamed, Hanaa ZainEldin, Hanaa A. Sayed, Rasha F. El-Agamy, El-Sayed Atlam, Shatha Abed Alsaedi, Majed Alwateer, Hossam Magdy Balaha, Mahmoud Badawy, and Mostafa A. Elhosseini. 2025. "Deep Learning for Pathology: YOLOv8 with EigenCAM for Reliable Colorectal Cancer Diagnostics" Bioengineering 12, no. 11: 1203. https://doi.org/10.3390/bioengineering12111203

[13] Badawy, Mahmoud, Yousry AbdulAzeem, Hanaa ZainEldin, Hossam Magdy Balaha, Amna Bamaqa, Rasha F. El-Agamy, Hanaa A. Sayed, and Mostafa A. Elhosseini. "AI-driven prognostics in pediatric bone marrow transplantation: a

CAD approach with Bayesian and PSO optimization." BMC Medical Informatics and Decision Making 25, no. 1 (2025): 363.

REFERENCES

- Prof. Hassan M. El-Hawary, Dean of Faculty of science, Assiut University, elhawary@aun.edu.eg
- Prof. Khalid M. Hosny, Professor of Computer Science and Information Technology, Zagazig University, Egypt
  K_hosny@yahoo.com
- Prof. Khaled F. Hussain Associate Professor Department of Multimedia, Faculty of Computers and Information, Assiut University,
  khussain@aun.edu.eg