Eman Ahmed Sayed Ahmed

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I am interested in transferring my knowledge to students by teaching them basics courses and new emerging topics. I am willing to learn new courses to expand my knowledge. I am looking for a teaching opportunity in one of my fields-of-interest including Artificial Intelligence, Machine Learning, Pattern Recognition, Deep Learning, Image Processing, Computer Graphics, Signals and Systems, Programming or any Basics courses.

Education

- PhD Joint degree from Université Côte d'Azur of France and Faculty of Computers and Artificial Intelligence, Cairo University, 2020.
- Pre-PhD Qualification Exams and Pre-PhD Courses (2013-2014).
- M.Sc. in Information Technology, December 2012, Faculty of Computers and Information, Cairo University.
- B.Sc. Information Technology, July 2006.
- Overall grade: Excellent with honors - First.

Work Experience

- Lecturer, Information Technology Department, Faculty of Computers and Artificial Intelligence since 2020.
- Lecturer Assistant, Information Technology Department, Faculty of Computers and Artificial Intelligence (2012 – 2020).
- Teaching Assistant, Information Technology Department, Faculty of Computers and Artificial Intelligence (2007 – 2012).

Teaching Experience

- Pattern recognition.
- Introduction to Machine Learning.
- Image Processing.
- Multimedia and compression techniques.
- Computer Architecture and Organization.
- Signals and Systems.
- Digital Signals Processing (DSP).
- Logic Design.
- Computer Graphics.
- Python Programming.

- C++ Programming.
- Object Oriented Programming.

Research Experience

PhD Thesis
Constructive Modeling of Discrete-Event Systems: Application to Artificial Organisms
Brief
The phD thesis was jointly supervised by Egyptian from Faculty of Computers and Artificial Intelligence, Cairo University and French supervisors from Laboratoire I3S, Université Côte d'Azur of France. In this work, a novel framework was proposed to model how the fetus starts learning its primary movements by sending command signals from its brain to its limbs and how an initial cognitive map is formed. A simulated model was implemented using Hidden Markov Model.

Master Thesis
Classifier Ensembles Techniques for bio-data
Brief
In this work, it is proposed to apply an ensemble of SVMs with SVM fusion, to combine the results of the base SVM classifiers, coupled with feature-subset selection methods to alleviate the curse of dimensionality associated with gene expression based classification of DNA microarray datasets. The proposed ensemble is tested on benchmark datasets and compared with other three ensembles in literature.

List of Publications

Ezzat, D., Soliman, M., Ahmed, E. et al. *An optimized explainable artificial intelligence approach for sustainable clean water.* Environ Dev Sustain (2023). https://doi.org/10.1007/s10668-023-03712-0

Ahmed, E., Farag, M.A., Darwish, A., Hassanien, A.E. (2023). *Digital Twin Technology for Energy Management Systems to Tackle Climate Change Challenges*. In: Hassanien, A.E., Darwish, A. (eds) The Power of Data: Driving Climate Change with Data Science and Artificial Intelligence Innovations. Studies in Big Data, vol 118. Springer, Cham. https://doi.org/10.1007/978-3-031-22456-0_8

Eman Ahmed, Reda A. El Khoribi, Gamal Darwish, Alexandre Muzy, and Gilles Bernot (2020), "*Modeling of the development of the fetus cognitive map from the sensorimotor system*", Egyptian Informatics Journal, Vol. 21, Issue 4, pp 191-199, ISSN 1110-8665, https://doi.org/10.1016/j.eij.2020.01.002.
(https://www.sciencedirect.com/science/article/pii/S1110866519303706)

E. Ahmed, R. El-Khoribi, A. Muzy, G. Bernot, and G. Darwish (2019). *Modeling of Goal-oriented Human Motion Evolution using Hidden Markov Models*. In Proceedings of the 8th International Conference on Pattern Recognition Applications and Methods - ICPRAM, ISBN 978-989-758-351-3; ISSN 2184-4313, pages 605-612. DOI: 10.5220/0007391906050612

E. Ahmed, N. El Gayar, A. Atiya and I. El Azab, "*Fuzzy Gaussian Process Classification Model*", in Mohamed S. Kamel, Aurélio C. Campilho (Eds.): Image Analysis and Recognition, 6th International Conference, ICIAR 2009, Halifax, Canada, July 6-8, 2009. Proceedings. Lecture Notes in Computer Science 5627 Springer 2009, ISBN 978-3-642-02610-2, pp. 369-376, 2009.

E. Ahmed, N. El Gayar and Iman El Azab, "*Support Vector Machine Ensembles Using Features Distribution among subsets for Enhancing Microarray Data Classification*", In Proceedings of 10th International Conference of Intelligent Systems Design and Applications (ISDA 2010), ISBN 978-1-4244-813487, pp 1242-1246, 2010.

Neamat El Gayar, Eman Ahmed and Iman El Azab (2011). "*Novel Machine Learning Techniques for Micro-Array Data Classification*", In Book Bioinformatics - Trends and Methodologies, Dr. Mahmood A. Mahdavi (Ed.), ISBN: 978-953-307-282-1, InTech, DOI: 10.5772/22132. Available from: http://www.intechopen.com/books/bioinformaticstrends-
and-methodologies/novel-machine-learning-techniques-for-micro-array-dataclassification

E. Ahmed, N. El Gayar and Iman El Azab, "*Support Vector Machine Ensembles Using Feature-Subset Selection for Enhancing Microarray Data Classification*", International Journal of Applied Mathematics and Statistics (IJAMAS 2012), Vol. 28, Issue No. 4, ISSN 0973-1377, 2012.

Courses and Certifications

- Convolutional Neural Networks, Coursera, 2020.
- Neural Networks and Deep Learning, Coursera, 2020.
- Improving Deep Neural Networks: Hyperparameter Tuning, Regularization and Optimization, Coursera, 2020
- Structuring Machine Learning Projects, Coursera, 2020

Soft Skills

- Good teaching and training skills.
- Good research skills.
- Good communication and presentation skills.
- Ability to work in a team.
- Ability to work under stress.

Personal Information

- Date of birth: 18/2/1985.
- Gender: Female.
- Marital Status: Married.
- Languages: Arabic – English.