

Dr.Marghny Hassan Mohamed

Professional Resume

Personal Details:

Name: Marghny Hassan Mohamed

Address: Dept. of Computer Science, Faculty of Computers
and Information Science, Assiut University, Assiut, Egypt.

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Education:

July 2013, prof., at the dept. of Computer Science, Faculty of computer and information sciences, Assiut Univ.

July 2007, associate prof., at the dept. of Computer Science, Faculty of computer and information sciences, Assiut Univ.

April 2002: Ph.D. in Computer Science from Kyushu University, Japan.

July. 1993: M.Sc. in Computer Science, Assiut University, Egypt.

Jun. 1988: B.Sc. in Mathematics, Assiut University, Egypt.

Managerial positions

- 1- Supervision of the dept. of information system from 26-5-2008 until 28-9-2009
- 2- Manger of Consultation of Computer Center from 14-10-2008 until now
- 3- Based work and Vice Dean for Community Service and Environmental Development from 29-9-2009
- 4- Vice Dean for Education and Student Affairs from 3-1-2012 until now.

Work Experience:

Oct. 1990 - July. 1993: Demonstrator

Aug. 1993 - Oct. 1996: Assistant Lecturer

April 2002- July 2007: Lecturer at Assiut University, Faculty of Computer and Information Science.

July 2007 – june2013 Associate prof., at the dept. of Computer Science, Faculty of computer and information sciences, Assiut Univ.

July 2013 up tell now prof., at the dept. of Computer Science, Faculty of computer and information sciences, Assiut Univ.

These Jobs involves teaching a wide range of computer Science and Information System courses in the Faculty of computer and information sciences and Faculty of Sciences Each course covers basic material as well as supplemental material.

Teaching courses:

Undergraduate

1. Formal Language and Automata theory (Third Year)
2. Logic Programming (Third Year)
3. Artificial Intelligence (FCI (Third Year) , FS (fourth year))
4. Computer System (FS (Third Year CS)),
5. Data Structure (Second Year)
6. Introduction to Computers (First Year)
7. Decision Support System (Elsadat Academic)
8. Information Systems (Second Year Is)
9. Management Information System (Fourth Years Is)
10. Object Oriented programming (Fourth Year Cs)
11. Office Automation System (Fourth Years Is)
12. Information Systems (Second Year Is)
13. Pattern Recognition (Fourth Year CS)
14. Data Mining and Warehousing (Fourth Year IS)
15. Computation Theory (fourth Year CS)

Graduate :

1. Advanced Data Mining and Warehousing
2. Advanced Artificial Intelligence.
3. Information Retrieval, Filtering and Classification
4. Machine Learning
5. Neural Networks
6. Intelligent Computation
7. Pattern Recognition
8. Information System Design

Research Interests

- **Data Mining**

Data mining is the process of extracting knowledge for decision from huge amount of data.

- **Text Mining**

Text mining is the process of extracting implicit knowledge necessary directly for decision from textual data. Instances of text mining are text categorization, text clustering, text summarization, text segmentation, text association, and so on.

- **Information Retrieval**

Information retrieval is the process of mapping full texts into lists of words. Researches on such process are necessary as a fundamental research for implementing information retrieval systems and techniques of text mining.

- **Web Mining**

Web mining is the process of extracting implicit knowledge from structure, content, and user profile of web documents. web mining is regarded as the extension of text mining to web documents.

- **Machine Learning**

Machine learning is the computation approaches classifying or clustering unseen examples by analyzing sample data and defining computation models.

- **Pattern Recognition**

Pattern recognition is the process of classifying or clustering patterns represented into feature vectors, syntactic structure, and objects.

- **Neural Networks**

An Artificial Neural Network (ANN) is an information processing paradigm that is inspired by the way biological nervous systems, such as the brain, process information. Evolutionary Computation, It is an optimization techniques simulating the evolution of entities in biology.

- **Security**

My research focuses on information security. Current research topics are the security using golden matrix, I am also interested in steganography and have done research on cryptographic protocols at large.

Spoken Languages: - Arabic, English, Japanese.

Projects

Advanced Research Projects

Manger of "*Diagnostics System for Endemic Deceases in Egypt Using Self Organizing Data Mining*", this project supported by Information Technology Academia Collaboration (ITAC), Egypt.

Final Year Projects :

Supervision of many final year project in computer science, information system and information technology.

Supervisor

Supervision of more than 50 master and Ph. D. Thesis

List of Publications:

1. **Mohamed H. M.**, Minamoto T. and Nijjima K.: Convergence rate of minimization learning for neural networks. DOI Technical Report, Kyushu University, DOI-TR-141, 1997.
2. Nijjima K., Yamada M., **Mohamed H. M.**, Akanuma T., Minamoto T. and Ohkubo A.: Minimization learning of neural networks by adding hidden units. Research Reports on Information Science and Electrical Engineering of Kyushu University, vol.2, no.2, pp.173-178, 1997.
3. Ohkubo A., **Mohamed M. H.** and Nijjima K.: A soil moisture map generated from satellite data by using domains of attraction in neural networks. Proc. of the Fifth International Conference on Neural Information Processing, pp.356-359, 1998.
4. **Mohamed M. H.**, Minamoto T. and Nijjima K.: Convergence rate of minimization learning for neural networks. Lecture Notes in Artificial Intelligence, 1398, Springer (ECML'98), pp.412-417, 1998.
5. **Mohamed M. H.**, Ohkubo A., Minamoto T. and Nijjima K.: Learning of three-layer neural networks based on domains of attraction. Proc. of the Fifth International Conference on Neural Information Processing, pp.1591-1594, 1998.
6. **Mohamed M. H.** and Nijjima K.: Rules extraction by constructive learning of neural networks and hidden-unit clustering. Lecture Notes in Artificial Intelligence, 1721, Springer, Proc. of the Second

- International Conference on Discovery Science, pp.343-344, 1999.
7. **Mohamed H. M.**, and Nijjima K.: Extracting rules from neural network by removing unnecessary connections. Proc. of the Second ICSC Symposium on Neural Computation, pp.322-328, 2000.
 8. **Mohamed H. M.** and Nijjima K.: Redundant connections effect on the error rate for the neural networks. Proc. of the Seventh International Conference on Neural Information Processing, pp.981-985, 2000.
 9. Nijjima K. and **Mohamed M. H.**: Neural networks as domains of classification. DOI Technical Report, Kyushu University, DOI-TR-186, 2001.
 10. **M. H. Marghny** and A. A. Shakour, Fast, Simple and Memory Efficient Algorithm for Mining Association Rules, International Journal of computer and software, Vol. 2, No.1,2007 .
 11. **M. H. Marghny**, I. E. El-Semman and Mohammed A. Bamatraf, A *neural* network approach towards data security, International Journal of computer and software, Vol. 2, No.1,2007 .
 12. **M. H. Marghny** and Ahmed I. Taloba, An Efficient Genetic clustering algorithm, GIS workshop, Feb. 2007.
 13. **M. H. Marghny** and Heba T., Accurate and Efficient Classification Based on Multiple Class, GIS workshop, Feb. 2007.
 14. **M. H. Marghny**, and I.E. El-Semman, Extracting fuzzy classification rules with gene *expression* programming, ICGST International Journal on Artificial Intelligence and Machine Learning, AIML, Vol. 6, Special Issue, March, 2006.
 15. S. I. Shaheen, M. Heshmat, **M. H. Marghny** and E. A. Zanaty "An Algorithm For Data Reduction In Reverse Engineering", 2nd Int. Conference on Intelligent Computing and Informational System, Faculty of Computer & Information Sciences, Ain Shamas University, March 5-7, 2005, Cairo, Egypt, Pp. 85-95, 2005
 16. **M. H. Marghny** and A. Fouad Ali, Web Mining Based on Genetic Algorithm, ICGST International Journal on Artificial Intelligence and Machine Learning, AIML, Vol. 6, Special Issue, March, 2006.
 17. **M. H. Marghny** and I. E. El-Semman, "Extracting Logical Classification Rules with Gene Expression Programming; Microarray Case Study",

ICGST International Conference on Artificial Intelligence and Machine Learning, AIML05}, (PID: P1120535113), 2005.

18. **M. H. Marghny** "Extracting Classification Rules Using Gene Expression Programming and Neural Networks", *JES: International Journal of Engineering Science, Faculty of Engineering, Assiut University, Egypt, January 2006.*
19. **M. H. Marghny** , S. Salah, "Best-Worst Population Based Approach to Solve TSP, *INFOS2006* , Cairo, Egypt.
20. **M. H. Marghny**, I. E. El-Semman and Mohammed A. Bamatraf *SERIA: A Novel Scheme for Secured Communication, INFOS2006* , Cairo, Egypt.
21. **M. H. Marghny**, A. Fouad. Ali "MINING THE WEB PAGES BY EVOLUTIONARY ALGORITHM " *IJICIS: International Journal of Intelligent Computing and Information Sciences Vol. 6, No. 1 Pp. 187 -- 196 (2006).*
22. **M. H. Marghny**, *Extracting Classification Rules Using Gene Expression Programming and Neural Networks, IJICIS: International Journal of Intelligent Computing and Information Sciences Vol. 6, No. 2 Pp. 161--172 (2006).*
23. **M. H. Marghny**, S. Salah, *Enhancement Versions of Population based Ant Colony, IJICIS: International Journal of Intelligent Computing and Information Sciences Vol. 6, No. 2 Pp.. 87--101 (2006).*
24. **M. H. Marghny**, S. Salah, *Hopfield Network and Genetic Algorithm To Solve N-P hard Optimization Problem, IJICIS: International Journal of Intelligent Computing and Information Sciences Vol. 6, No. 2 Pp. 267--276 (2006).*
25. **M. H. Marghny**, *Evolutionary Algorithm For Learning The Dynamics Of The User Profile, ICGST: International Journal on Artificial Intelligence and Machine Learning, AIML, Vol. 6, No.3 (2006), Pp. 49-- 54.*
26. **M. H. Marghny** and A. A. Shakour, *Scalable Algorithm for Mining Association Rules, ICGST, International Journal on Artificial Intelligence and Machine Learning, AIML, Vol. 6, No.3 (2006) , Pp. 55--60.*
27. **M. H. Marghny**, A. A. Mitwaly, "Fast Algorithm for Mining Association Rules", *ICGST International Conference on Artificial Intelligence and Machine Learning, AIML05}, (PID: P1120535119)*
28. Sherif T. Amin, Magdy. A. Saeb, Marghny. H. Mohammed, *Identity Detection of Typist relying on Image Processing Techniques, ICGST*

International Journal on Graphics, Vision and Image Processing, ICGST-GVIP Journal, Vol. 7, No. 3, November 2007

<http://www.icgst.com/gvip/Volume7/Issue3/P1150733007.html>

29. **Marghny H. Mohamed, and M. M. AbdelSamea, An Efficient Clustering based Texture Feature Extraction for Medical Image, 11st International Workshop on Data Mining and Artificial Intelligence (DMAI 2008),**

http://www.cs.mu.oz.au/.../DMAI_accepted_paper_list.pdf

30. **Naziha M. Al-Aidroos, Marghny H. Mohamed and Hohamed A. Bamatraf, Hybrid Cryptographic Scheme for Data Communication, The 2nd International Conference on Advanced Computer Theory and Engineering (ICACTE 2009),**

http://asmedl.org/ebooks/asme/asme_press/802977/802977_paper115

31. **Marghny H. Mohamed, M. M. AbdelSamea, Self Organization Map based Texture Feature Extraction for efficient Medical Image Categorization, Egypt, Fourth International Conference on Intelligent Computing and Information Systems (ICICIS 2009)**

<http://icicis.edu.eg/>

32. **Marghny Hasan Mohammed, Mohammed A. Bamatraf, Medical Diagnostic Decision Support Framework using Data Mining, Industrial Conference on Data Mining, pp. 8-22, 2009.**

http://www.informatik.uni-trier.de/~ley/db/indices/a-tree/m/Mohammed:Marghny_Hasan.html

33. **Marghny H. Mohamed and Hosam E. Refaat, Hori-Vertical Distributed Frequent Itemsets Mining Algorithm on Heterogeneous Distributed Shared Memory System, IJCSNS International Journal of Computer Science and Network Security, Vol.10, No.11, pp. 56-62, November 2010.**

http://www.paper.ijcsns.org/07_book/201011/20101110.pdf

34. **Marghny H. Mohamed, Fadwa M. Al-Aidroos and Hohamed A. Bamatraf, Data Hiding by LSB Substitution Using Genetic Optimal Key-Permutation, International Arab Journal of e-Technology, International Arab Journal of e-Technology, Vol. 2, No. 1, pp. 11-17, January 2011**

<http://www.informatik.uni-trier.de/~ley/db/journals/iajet/iajet2.html>

35. **Marghny H. Mohamed, Abdel-Rahiem A. Hashem, M. M. AbdelSamea, "Data Mining Techniques For Missing Value Imputation", Journal of Engineering Sciences vol. 38, no. 4, 2010.**

36. **Ahmed M. Abdel-Moniem, Marghny H. Mohamed, Abdel-Rahman Hedar, An ant colony optimization algorithm for the mobile ad hoc**

network routing problem based on AODV protocol. ISDA 2010: 1332-1337.

<http://www.informatik.uni-trier.de/~ley/db/conf/isda/isda2010.html#Abdel-MoniemMH10M. H.>

37. **Marghny H. Mohamed** and Ahmed I. Taloba, *Outlier Detection using Improved Genetic K-means*. *International Journal of Computer Applications*, Published by Foundation of Computer Science, New York, USA, Vol. 28, No. 11 pp. 33-36, 2011.

<http://www.ijcaonline.org/archives/volume28/number11/3458-4723>

38. **M H Marghny**, Rasha Abd M El-Aziz and Ahmed I Taloba. *Article: An Effective Evolutionary Clustering Algorithm: Hepatitis C Case Study*. *International Journal of Computer Applications* 34(6):1-6, November 2011. Published by Foundation of Computer Science, New York, USA.

<http://www.ijcaonline.org/archives/volume34/number6/4092-5420>.

39. **Marghny H. Mohamed** and Hosam E. Refaat, *A Fast Parallel Association Rule Mining Algorithm Based on The Probability of Frequent Itemsets* *IJCSNS International Journal of Computer Science and Network Security* Vol. 11 No.5 pp. 1-11, May 2011.

http://paper.ijcsns.org/07_book/201105/20110522.pdf

40. **Marghny H. Mohamed**, *Multi-Service Cryptographic Scheme for Secure Data Communication*, *IJCSNS International Journal of Computer Science and Network Security*, Vol.11 No.7, pp. 148-153, July 2011.

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41. **Marghny H. Mohamed** and Hosam E. Refaat, *A New Algorithm for Parallel Association Rule Mining in Distributed Shared Memory System*, *CiiT International Journal of Data Mining Knowledge Engineering*, August 2011.

<http://www.ciiiresearch.org/dmkeaugust2011.html>

42. **Marghny H. Mohamed** and Mohamed Darweash, *Advanced Matrix Algorithm (AMA): reducing number of scans for association rule generation*, *Int. J. Business Intelligence and Data Mining*, Vol. 6, No. 2, 2011.

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43. **Marghny H. Mohamed**, *Rules Extraction from Constructively Trained Neural Networks Based on Genetic Algorithms*, *NeuroComputing*, Vol. 74, Issue 17, Pp. 3180-3192, 2011.

<http://www.sciencedirect.com/science/article/pii/S0925231211002736#>.

44. Ahmed M. Abd Elmoniem, Hosny M. Ibrahim, **Marghny H. Mohamed**, and Abdel-Rahman Hedar, *Ant Colony and Load Balancing*

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<http://www.ashdin.com/journals/IJSNDC/X110203.aspx>

45. **Marghny H. Mohammed**, Abdel-Rahman Hedar and Sara Salah, *An Improved Ant Colony Algorithm Based on the Immune Strategy for Protein Structure Prediction Problem, 21st International Conference on Computer Theory and Applications, ICCTA 2011, 15-17 October 2011, Alexandria, Egypt.*

<http://www.iccta.aast.edu/2011/program2011.pdf>

46. **Marghny Mohamed**, Abeer Al-Mehdhar and Mohamed Bamatraf, *SOM-PAD: Novel Data Security Algorithm on Self Organizing Map, The Fourth International Workshop on Computer Networks & Communications (CoNeCo 2012), Oct 26 ~ 28, 2012, Coimbatore, India, Proceedings Volume Editors: Sundarapandian Vaidyanathan, Radha, ISBN : 978-1-921987-05-2.*

<http://airccse.org/currentissue7.html>

47. **Marghny H. Mohamed** and Hussein I. Abul-kasim, *Data Hiding by LSB Substitution using Gene Expression Programming, International Journal of Computer Applications (0975 – 8887), Published by Foundation of Computer Science, New York, USA, Vol. 45, No.14, pp. 13-20, 2012.*

<http://www.ijcaonline.org/archives/volume45/number14/6848-9408>

48. **Marghny H. Mohamed** and Hosam Refaat, *A New Parallel Association Rule Mining Algorithm on Distributed Shared Memory System, Int. J. Business Intelligence and Data Mining, Vol. x, No. x, In press, 2012.*

<http://www.inderscience.com/info/ingeneral/forthcoming.php?jcode=ijbidm>

49. **Marghny H. Mohammed**, Abdel-Rahman Hedar and Sara Salah, *An Improved Ant Colony Algorithm Based on the Immune Strategy for the 2D HP Protein Structure Prediction Problem, CiiT International Journal of Biometrics and Bioinformatics, in press.*

<http://www.ciiiresearch.org/bbseptember2012.html>

50. **Marghny Mohamed**, Abeer Al-Mehdhar and Mohamed Bamatraf, *SOM-PAD: Novel Data Security Algorithm on Self Organizing Map, The Fourth International Workshop on Computer Networks & Communications (CoNeCo 2012), Oct 26 ~ 28, 2012, Coimbatore, India, Proceedings Volume Editors: Sundarapandian Vaidyanathan, Radha ISBN : 978-1-921987-05-2*

51. **Marghny Mohamed**, Naziha M. Al-Aidroos and Mohamed Bamatraf, *Innovative Multi-Level Secure Steganographic Scheme based on Pixel Value Difference, International Journal in Foundations of Computer Science & Technology*

<http://airccse.org/journal/ijfcst/current2012.html>

52. **Marghny Mohamed**, Naziha M. Al-Aidroos and Mohamed Bamatraf *Data Hiding Technique Based on LSB Matching Towards High Imperceptibility*, *MIS Review: An International Journal*
<http://www.mis2.nccu.edu.tw/misr/>
53. **Marghny Mohamed**, Naziha M. Al-Aidroos and Mohamed Bamatraf *DATA HIDING TECHNIQUE BASED ON DYNAMIC LSB*, Naif Arab University
54. **Marghny Mohamed**, Abeer Al-Mehdhar and Mohamed Bamatraf, *Self Organizing Map As a Pad In Data Security Algorithm*, *Signal & Image Processing: An International Journal (SIPIJ)*.
55. **Marghny H. Mohamed** and Mohammed M. Darwieesh, Efficient mining frequent itemsets algorithms, *International Journal of Machine Learning and Cybernetics*, 1-11 , springer.
56. S. Salah, AR Hedar, **Marghny H. Mohamed** , ENHANCED POPULATION BASED ANT COLONY FOR THE 3D HYDROPHOBIC POLAR PROTEIN STRUCTURE PREDICTION PROBLEMS, *International Journal on Bioinformatics & Biosciences* , June 2013, Volume 3, Number 2 .
57. **Marghny H. Mohamed**, Mahmoud.A Mofaddel, Hamdy.H El-Sayed, NEW ON-DEMAND ROUTING PROTOCOL FOR AD HOC NETWORKS MH Mohamed *Journal of Global Research in Computer Science* 4 (8), 1-7
58. A. A. Radwan, **Marghny H. Mohamed**, Mahmoud A. Mofaddel and Hamdy. H El-Sayed, Some Ad Hoc Network Characteristics Effects on the Performance of On-Demand Routing Protocols, Received: 18 Nov. 2012, Revised: 25 Mar. 2013, Accepted: 26 Mar. 2013.
59. **Marghny H Mohamed**, Abdel-rahim A Hashem and Mohammed M Abdelsamea. Scalable Algorithms for Missing Value Imputation. *International Journal of Computer Applications* 87(11):35-42, Feb. 2014. Published by Foundation of Computer Science, New York, USA
60. **M. Mohamed**, A. Al-Mehdhar, M. Bamatraf and M. Girgis, "Enhanced Self-Organizing Map Neural Network for DNA Sequence Classification," *Intelligent Information Management*, Vol. 5 No. 1, 2013, pp. 25-33. doi: 10.4236/iim.2013.51004.
61. **Marghny H. Mohamed**, Naziha M. Al-Aidroos and Mohamed A. Bamatraf "Secure Data Hiding System Based on Grey Level Modification", The 3rd Scientific Conference for Young Researchers for Basic Science & Technology, Assiut, Egypt, April 2011.

62. **Marghny H. Mohamed**, Naziha M. Al-Aidroos and Mohamed A. Bamatraf "A High Imperceptibility Image Steganography Technique", The 2nd International Conference on Mathematics & Information Science, Sohag, Egypt, September 2011.
63. **Marghny H. Mohamed**, Naziha M. Al-Aidroos and Mohamed A. Bamatraf "Data Hiding Technique Based on Dynamic LSB", The International Arab Conference on Information Technology (ACIT'2011), Naif Arab University for Security Science (NAUSS), Riyadh, Saudi Arabia, December 2011.
64. **Marghny H. Mohamed**, Naziha M. Al-Aidroos and Mohamed A. Bamatraf "Data Hiding Technique Based on LSB Matching towards High Imperceptibility", MIS Review: An International Journal, Vol. 18, No. 1, pp. 57-69, September 2012.
65. **Marghny H. Mohamed**, Naziha M. Al-Aidroos and Mohamed A. Bamatraf "A Combined Image Steganography Technique Based on Edge Concept & Dynamic LSB", International Journal of Engineering Research & Technology (IJERT), Vol. 1 Issue 8, October-2012, ISSN: 2278-0181.
66. **Marghny M.H.** Seleem, Y.Z; Hussain, K.F. Improving genetic process mining using Honey Bee algorithm, Second International Conference on Informatics and Applications (ICIA), 2013.
67. **Marghny H. Mohamed**, Yasmeen T. Mahmoud and Saad Z. Rida, Destructive Learning Analysis and Constructive Algorithm for Rule Extraction Based on a Trained Neural Network Using Gene Expression Programming, International Journal of Computer Applications 87(11):35-42, March 2014. Published by Foundation of Computer Science, New York, USA
68. Hamdy.H El-Sayed, **Marghny H.Mohamed**, Mahmoud, .A Performance Evaluation of AODV, BDA and DSR Routing Protocols in AD HOC Networks, International Journal of Mobile & Adhoc Network, Volume 4, Issue 2
69. AAA Radwan, **Marghny H Mohamed**, MA Mofaddel, H El-Sayed, A Study of Critical Transmission Range for Connectivity in Ad Hoc Network, Information Sciences Letters 2 (2).

70. A A Sewisy, **M H Marghny**, RMA El Aziz, AI Taloba, Fast Efficient Clustering Algorithm for Balanced Data, (IJACSA), International Journal of Advanced Computer Science and Applications
71. Differential Search Algorithm-based Parametric Optimization of Fuzzy Generalized Eigenvalue Proximal Support Vector Machine, AIT M. H. Marghny, Rasha M. Abd El-aziz, International Journal of Computer Applications 108 (19), 38-46
72. YB Mahdy, **MH Mohamed** Confidential Algorithm for Golden Cryptography Using Haar Wavelet, , WAEW Shaban arXiv preprint arXiv:1501.03617
73. **M. H. Marghny**, HM Ibrahim, , NMA Abdelaziz, (IJACSA)Fast Vertical Mining Using Boolean Algebra International Journal of Advanced Computer Science and Applications, Vol. 6 , No. 1, 2015