

# Abdel-Rahman Hedar



## Personal Information

Full Name **Abdel-Rahman Hedar Abdel-Rahman Ahmed**  
 Sex **Male**  
 Date of Birth **March 13, 1972**  
 Nationality **Egyptian**  
 Status **Married**  
 Children **One daughter**

## Contact

Computer Science Dept.  
 Assiut University  
 Assiut 71526, Egypt

+20 (10) 00704940  
 hedar@aun.edu.eg

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Computer Science Dept.  
 Jamoum Univ. College  
 Umm Al-Qura University  
 Makkah 25371  
 Saudi Arabia

+966 (55) 0086411  
 ahahmed@uqu.edu.sa

## Languages

Arabic mother tongue  
 English fluency  
 Japanese fair

## Date

November 27, 2019

## Education

2000 - 2004 **Doctor of Informatics (Computer Science)** Kyoto, Japan  
 Kyoto University  
 1994 - 1997 **Master of Science (Mathematics)** Assiut, Egypt  
 Assiut University  
 1989 - 1993 **Bachelor of Science (Mathematics)** Assiut, Egypt  
 Assiut University

## Research Metrics

Google Scholar: **Citations = 1721, h-index = 22**  
 Scopus: **Citations = 857, h-index = 13**

## Experience

2019 - Now **Professor** Assiut, Egypt  
 Dept. of Computer Science, Faculty of Computing & Informatics, Assiut University  
 2012 - Now **Associate Professor** Makkah, Saudi Arabia  
 Dept. of Computer Science, Jamoum University College, Umm Al-Qura University  
 2012 - 2019 **Associate Professor** Assiut, Egypt  
 Dept. of Computer Science, Faculty of Computing & Informatics, Assiut University  
 July - 2018 **Visiting Researcher** Kyoto, Japan  
 Graduated School of Informatics, Kyoto University  
 Feb-Sep 2012 **Computer Science Department Head** Assiut, Egypt  
 Dept. of Computer Science, Faculty of Computing & Informatics, Assiut University  
 March 2010 **Visiting Researcher** Kyoto, Japan  
 Graduated School of Informatics, Kyoto University  
 2005 - 2012 **Assistant Professor** Assiut, Egypt  
 Dept. of Computer Science, Faculty of Computing & Informatics, Assiut University  
 2005 - 2007 **Research Fellow** Kyoto, Japan  
 Graduated School of Informatics, Kyoto University  
 Dec 2005 **Visiting Researcher** Ballarat, Australia  
 Centre for Informatics and Applied Optimization, University of Ballarat  
 2004 - 2005 **Assistant Professor** Assiut, Egypt  
 Dept. of Mathematics, Faculty of Science, Assiut University  
 2002 - 2004 **Teaching Assistant** Osaka, Japan  
 Information Science Dept., Osaka Kyoiku University  
 1997 - 2004 **Lecturer** Assiut, Egypt  
 Dept. of Mathematics, Faculty of Science, Assiut University  
 1993 - 1997 **Demonstrator** Assiut, Egypt  
 Dept. of Mathematics, Faculty of Science, Assiut University

## Non-Teaching Experience

2018 - Now	<b>Member of the National Committee for Developing Artificial Intelligence Colleges</b>	Cairo, Egypt Ministry of Higher Education
2018 - Now	<b>Quality Assurance &amp; Academic Development Consultant</b>	Makkah, Saudi Arabia Deanship for Academic Development and Quality, Umm Al-Qura University
2012 - Now	<b>Quality Assurance Coordinator &amp; Chair of the ABET Committee</b>	Makkah, Saudi Arabia Dept. of Computer Science, Jamoum University College, Umm Al-Qura University
2014 - 2016	<b>Data Analysis Division Head</b>	Makkah, Saudi Arabia The Strategic Plan (AAFAQ) for the Higher Education in Saudi Arabia, Umm Al-Qura University Executive Office
2009 - 2012	<b>Director of Quality Assurance Unit</b>	Assiut, Egypt Faculty of Computing & Informatics, Assiut University
2010 - 2012	<b>Consultant</b>	Assiut, Egypt Egyptian Cloud Computing Center
2009 - 2012	<b>Executive Manager</b>	Assiut, Egypt The Continuous Improvement and Qualifying for Accreditation Project, Faculty of Computing & Informatics, Assiut University
2009 - 2012	<b>Co-Director</b>	Assiut, Egypt Industrial Technology Transfer Unit, Assiut University
2008 - 2012	<b>Trainer for E-Learning and Teaching Technologies</b>	Assiut, Egypt Faculty and Leadership Development Center, Assiut University
2009 - 2012	<b>Executive Committee Member</b>	Assiut, Egypt Super Computing Center, Faculty of Science, Assiut University

## Patents

1. "Smart surface-mounted hybrid sensor system, method, and apparatus for counting." US Patent 9,672,462.
2. "Systems and methodologies for performing intelligent perception based real-time counting." US Patent 20160259980A1.

## Fields of Interest

Computational Intelligence, Global Optimization, Meta-heuristics, Machine Learning, Data Mining, Graph Theory, Bioinformatics, Natural Language Processing, Cloud Computing, Direct Search Methods, Fixed Point Theory.

## Homepage

Assiut Univ.	<a href="http://www.aun.edu.eg/membercv.php?M_ID=4239">http://www.aun.edu.eg/membercv.php?M_ID=4239</a>
UmmAl-Qura Univ.	<a href="https://uqu.edu.sa/ahahmed/App/CV">https://uqu.edu.sa/ahahmed/App/CV</a>
Kyoto Univ.	<a href="http://www-optima.amp.i.kyoto-u.ac.jp/member/student/hedar/Hedar.html">http://www-optima.amp.i.kyoto-u.ac.jp/member/student/hedar/Hedar.html</a>
Google Scholar	<a href="https://scholar.google.com/citations?user=ql9fu0IAAAAJ&amp;hl=en">https://scholar.google.com/citations?user=ql9fu0IAAAAJ&amp;hl=en</a>
ResearchGate	<a href="http://www.researchgate.net/profile/Abdel-Rahman_Hedar">http://www.researchgate.net/profile/Abdel-Rahman_Hedar</a>
LinkedIn	<a href="https://www.linkedin.com/in/abdel-rahman-hedar-35528538/">https://www.linkedin.com/in/abdel-rahman-hedar-35528538/</a>

## Memberships

**The Association for Computing Machinery (ACM)**  
**The Institute of Electrical and Electronics Engineers (IEEE)**  
**IEEE Computer Society**  
**IEEE Computational Intelligence Society**  
**Egyptian Syndicate of Scientific Professions**

## Projects, Grants and Awards

2018-Now	<b>Visual Crowd Mining: Interpreting Challenging Crowd Scenes in Big Gatherings</b> Saudi Arabia <i>Co-Principal Investigator</i> , Project 17-CRW-1-01-0003 funded by the Scientific Research Deanship at Umm Al-Qura University
2015-2018	<b>Parallel Meta-Heuristics Toolbox for Continuous Global Optimization</b> Saudi Arabia <i>Principal Investigator</i> , Project 13-INF544-10 funded by the National Science, Technology and Innovation Plan, King Abdul-Aziz City for Science and Technology
2015-2018	<b>Short-Term Solar Radiation Prediction over Saudi Arabia using Numerical and Intelligent Systems</b> Saudi Arabia <i>Co-Principal Investigator</i> , Project 13-ENE2373-10 funded by the National Science, Technology and Innovation Plan, King Abdul-Aziz City for Science and Technology
2015-2018	<b>Design parallel meta-heuristics for graph domination problems</b> Saudi Arabia <i>Principal Investigator</i> , Project 43508016 funded by the Scientific Research Deanship at Umm Al-Qura University
2014-2016	<b>An online automatic system to estimate and predict the holy mosques crowd to manage potential risks</b> Saudi Arabia <i>Co-Principal Investigator</i> , Project 13-ENE2373-10 funded the Transportation and Crowd Management, Center of Research Excellence, Umm Al-Qura University
2009-2012	<b>Continuous Improvement and Qualifying for Accreditation</b> Egypt <i>Executive Manager</i> , Project supported by Ministry of Higher Education
2009-2010	<b>Industrial Technology Transfer Unit</b> Egypt <i>Co-Manager</i> , Project supported by the European Egyptian Innovation Fund
2007-2008	<b>High Availability Super Computing Lab</b> Egypt <i>Team member</i> , Project supported by Universities Development Funding Project (UDFP), Ministry of Higher Education
2006-2006	<b>Best Paper Awards in Computational Intelligence, Presentation and Innovation</b> Japan <i>Best Paper Awards</i> , 2nd International Workshop on Computational Intelligence & Applications, organized by IEEE-SMC, Dec 15, 2006, Okayama
2004-2007	<b>Teaching Mathematics through Thin-Client Technology</b> Egypt <i>Team member</i> , Project supported by Ministry of Higher Education
2005-2007	<b>Postdoctoral Fellowship in Kyoto University</b> Japan <i>Research Fellow</i> , Japan Society for the Promotion of Science (JSPS)
2000-2004	<b>Doctoral Scholarship in Kyoto University</b> Japan <i>PhD Student</i> , Scholarship funded by Egyptian Government

## Reference

### **Prof. Masao Fukushima**

Faculty of Science and Engineering, Nanzan University, Nagoya, Japan  
Email: fuku@ms.nanzan-u.ac.jp

### **Prof. Reda Ammar**

Faculty of Engineering, University of Connecticut, Connecticut, USA  
Email: reda@enr.uconn.edu

### **Prof. Nobuo Yamashita**

Graduate School of Informatics, Kyoto University, Kyoto, Japan  
Email: nobuo@i.kyoto-u.ac.jp

# Volunteer Work

## Editorial Board

Advances in Computing, Scientific and Academic Publishing, USA.  
Journal of System Science and Information, (Chinese Academy of Sciences, China)  
& (De Gruyter Academic Publishing, German)

## Journal Referee

IEEE Transactions on Evolutionary Computation, IEEE Transactions on Systems, Man, and Cybernetics Part (B), IEEE Transactions on Neural Networks, Optimization Methods and Software, Mathematical Programming, Pacific Journal of Optimization, European Journal of Operations Research, Journal of Global Optimization, Computational Optimization and Applications, Applied Soft Computing, etc.

# Publications

## Book Chapters

1. **A. Hedar** and M. Fukushima, "Simplex coding genetic algorithm for the global optimization of nonlinear functions", In: Multi-Objective Programming and Goal Programming, T. Tanino, T. Tanaka and M. Inuiguchi (Eds.), Springer-Verlag, Berlin-Heidelberg, (2003), 135–140.
2. Majig M.-A., **A. Hedar** and M. Fukushima, "A Hybrid Evolutionary Algorithm for Global Optimization", In: Optimization and Optimal Control, A. Chinchuluun, P.M. Pardalos, R. Enkhbat and I. Tseveendorj (Eds.), Springer-Verlag, Berlin-Heidelberg, 2010.

## International Journals

3. R.A. Rashwan and **A. Hedar**, "On common fixed point theorems of compatible mappings in Menger spaces." *Demonstratio Mathematica*, 31 (1998), 537–546.
4. **A. Hedar** and M. Fukushima, "Hybrid simulated annealing and direct search method for nonlinear unconstrained global optimization." *Optimization Methods and Software*, 17 (2002), 891–912.
5. **A. Hedar** and M. Fukushima, "Minimizing multimodal functions by simplex coding genetic algorithm." *Optimization Methods and Software* 18 (2003), 265–282.
6. **A. Hedar** and M. Fukushima, "Heuristic Pattern Search and Its Hybridization with Simulated Annealing for Nonlinear Global Optimization." *Optimization Methods and Software*, 19 (2004), 291–308.
7. **A. Hedar** and M. Fukushima, "Tabu Search directed by direct search methods for Nonlinear Global Optimization." *European Journal. of Operational Research*, 170 (2006), 329–349.
8. **A. Hedar** and M. Fukushima, "Derivative-free filter simulated annealing method for constrained continuous global optimization." *Journal of Global Optimization*, 35 (2006), 521–549.
9. M.-A. Majig, **A. Hedar** and M. Fukushima, "Hybrid evolutionary algorithm for solving general variational inequality problems." *Journal of Global Optimization*, 38 (2007), 637–651.
10. K.T. Elgindy and **A. Hedar**, "A New Robust Line Search Technique Based On Chebyshev Polynomials." *Applied Mathematics and Computation*, 207 (2008), 853–866.
11. **A. Hedar**, J. Wang and M. Fukushima, "Tabu search for attribute reduction in rough set theory." *Soft Computing*, 12 (2008), 909–918.
12. **A. Hedar** and A. Fahim, "Filter-based genetic Algorithm for mixed variable programming." *Numerical Algebra, Control and Optimization*, 1 (2011), 97–114.
13. **A. Hedar**, A.F. Ali and T.H. Abdel-Hamid, "Genetic algorithm and tabu search based methods for molecular 3d-structure prediction." *Numerical Algebra, Control and Optimization*, 1 (2011), 187–205.
14. **A. Hedar**, E. Mabrouk and M. Fukushima, "Tabu Programming: A New Problem Solver through Adaptive Memory Programming over Tree Data Structures." *International Journal of Information Technology & Decision Making*, 10 (2011), 373–406.

15. A.M.A. Elmoniem, H.M. Ibrahim, M.H. Mohamed and **A. Hedar**, "Ant Colony and Load Balancing Optimizations for AODV Routing Protocol." *International Journal of Sensor Networks and Data Communications*, 1 (2011), 1–14.
16. **A. Hedar** and R. Ismail, "Simulated annealing with stochastic local search for minimum dominating set problem." *International Journal of Machine Learning and Cybernetics*, 3 (2012), 97–109.
17. **A. Hedar** and A.F. Ali, "Tabu search with multi-level neighborhood structures for high dimensional problems." *Applied Intelligence*, 37 (2012), 189–206.
18. J. Wang, **A. Hedar**, S. Wang and J. Ma, "Rough set and scatter search metaheuristic based feature selection for credit scoring." *Expert Systems with Applications*, 39 (2012), 6123–6128.
19. M.H. Mohammed, **A. Hedar**, and S. Salah, "An Improved Ant Colony Algorithm Based on the Immune Strategy for the 2D HP Protein Structure Prediction Problem." *Biometrics and Bioinformatics*, 4 (2012), 459–465.
20. S. Salah, **A. Hedar** and M.H. Mohammed, "Enhanced population based ant colony for the 3D hydrophobic polar protein structure prediction problem." *International Journal on Bioinformatics & Biosciences (IJBB)*, 3 (2013), 41–52.
21. M.H. Afif, **A. Hedar** and T.H. Abdel-Hamid, "SS-SVM (3SVM): A New Classification Method for Hepatitis Disease Diagnosis." *International Journal of Advanced Computer Science & Applications* 4 (2013), 53–58.
22. **A. Hedar**, S.N. Abdel-Aziz and A.A. Sewisy, "Memetic algorithm with filtering scheme for the minimum weighted edge dominating set problem." *International Journal of Advanced Research in Artificial Intelligence (IJARAI)*, 2(8) (2013), 44–49.
23. **A. Hedar**, S.N. Abdel-Aziz and A.A. Sewisy, "Memetic Algorithm for the Minimum Edge Dominating Set Problem." *IAES International Journal of Artificial Intelligence*, 2 (2013), 179–186.
24. A.Y. Shahin, **A. Hedar** and W. Soliman, "Utilizing the Hirsch index to compare top obstetrics and gynecology researchers and the effect of readership volume on establishing solid benchmarks." *Journal of Evidence-Based Women's Health Journal Society*, 3 (2013), 94–101.
25. **A. Hedar** and M.A. Bakr, "Three Strategies Tabu Search for Vehicle Routing Problem with Time Windows." *Computer Science and Information Technology*, 2 (2014), 108–119.
26. **A. Hedar** and M.A. Bakr, "Applying Tabu Search in Finding an Efficient Solution for the OVRP." *International Journal of Open Problems in Computer Science & Mathematics*, 7 (2014), 36–51.
27. T.H. Soliman, M.A. Elmasry, **A. Hedar** and M.M. Doss. "Sentiment Analysis of Arabic Slang Comments on Facebook." *International Journal of Computers & Technology*, 12 (2014), 3470–3478.
28. J. Wang, Q. Zhang, **A. Hedar**, A.M. Ibrahim, "A rough set approach to feature selection based on scatter search metaheuristic." *Journal of Systems Science and Complexity*, 27(1) (2014), 157–168.
29. A. Ibrahim, H. Fahim, Y. Ahmed and **A. Hedar**. "Resource Allocation Algorithm for GPUs in a Private Cloud." *International Journal of Cloud Computing*, 5 (2016), 45–56.
30. **A. Hedar**, A. Ibrahim, A. Abdel-Hakim, and A. Sewisy. "K-means cloning: Adaptive spherical K-means clustering." *Algorithms*, 11(10) (2018), 151.
31. **A. Hedar**, A.E. Abdel-Hakim, and Y. Alotaibi. "Normalised fuzzy index for research ranking." *Behaviour & Information Technology*, 37 (10-11) (2018), 1083–1096.
32. **A. Hedar**, R. Ismail, G.A. El Sayed and K.M.J. Khayyat, "Two meta-heuristics designed to solve the minimum connected dominating set problem for wireless networks design and management." *Journal of Network and Systems Management*, 27(3) (2019), 647–687.
33. E. Mabrouk, A. Ayman, Y. Raslan, and **A. Hedar**, "Immune System Programming for Medical Image Segmentation." *Journal of Computational Science*, 31 (2019), 111–125.
34. **A. Hedar**, A.A. Allam and W. Deabas. "Memory-Based Evolutionary Algorithms for Nonlinear and Stochastic Programming Problems." *Mathematics*, 7(11) (2019), 1126.

35. **A. Hedar**, W. Deabes, M. Almarashi, and H.H. Amin. "Evolutionary Algorithms Enhanced with Quadratic Coding and Sensing Search for Global Optimization." *Mathematical and Computational Applications*, 25, 1 (2020): 7.
36. **A. Hedar**, S.N. Abdulaziz, A.A. Sewisy, and G.A. El-Sayed. "Adaptive Scatter Search to Solve the Minimum Connected Dominating Set Problem for Efficient Management of Wireless Networks." *Algorithms* 13, no. 2 (2020): 35.
37. **A. Hedar**, A.A. Allam, and A.E. Abdel-Hakim. "Simulation-Based EDAs for Stochastic Programming Problems." *Computation* 8, no. 1 (2020): 18.

### International Refereed Conferences

38. **A. Hedar** and M. Fukushima, "Simulated Annealing Heuristic Pattern Search: A hybrid method for minimizing multimodal functions", In: *Proceedings of MIC'2003: The Fifth Metaheuristics International Conference*, Kyoto, August 2003.
39. **A. Hedar** and M. Fukushima, "Directed evolutionary programming: Towards an improved performance of evolutionary programming", *Proceedings of Congress on Evolutionary Computation, CEC 2006, IEEE World Congress on Computational Intelligence*, Vancouver, Canada, July 16–21, 2006.
40. **A. Hedar** and M. Fukushima, "Evolution strategies learned with automatic termination criteria", *Proceedings of SCIS&ISIS 2006*, Tokyo, Japan, September 20–24, 2006.
41. **A. Hedar** and M. Fukushima, "Meta-Heuristics Programming", *Proceedings of 2nd International Workshop on COMPUTATIONAL INTELLIGENCE & APPLICATIONS*, Okayama, Japan, Dec 15, 2006.
42. **A. Hedar**, J. Wang and M. Fukushima, "Memory-Based Heuristics for rough set attribute reduction", *Proceedings of the 3rd International Conference on Intelligent Computing and Information Systems*, Cairo, Egypt, March 15–18, 2007.
43. E. Hamdy, **A. Hedar** and M. Fukushima, "Memetic Programming with Adaptive Local Search Using Tree Data Structures" *International Conference on Soft Computing as Transdisciplinary Science and Technology (IEEE/ACM CSTST'08)*, Paris, France, October 27–31, 2008.
44. **A. Hedar** and A.F. Ali, "Genetic algorithm with population partitioning and space reduction for high dimensional problems", Cairo, Egypt, December 14–16, 2009.
45. J. Wang, **A. Hedar**, G. Zheng and S. Wang, "Scatter Search for Rough Set Attribute Reduction", *International Joint Conference on Computational Sciences and Optimization*, Hainin, China, April 24–26, 2009.
46. **A. Hedar**, A.F. Ali and T.H. Abdel-Hamid, "Finding the 3D-Structure of a molecule using genetic algorithm and tabu search methods", *10th International Conference on Intelligent Systems Design and Applications (ISDA) 2010*, Cairo (Nov 29–Dec 1) 2010.
47. A.H. El-Kholy, A.M. Abdel-Haleim, and **A. Hedar**, "Content-Based Image Retrieval using combined features and weighted similarity", *2nd International Conference on Computer Technology and Development, ICCTD 2010*, Cairo, Egypt, November 2–4, 2010.
48. A.M. Abdel-Moniem, M.H. Mohamed and **A. Hedar**, "An ant colony optimization algorithm for the mobile ad hoc network routing problem based on AODV protocol", *10th International Conference on Intelligent Systems Design and Applications (ISDA) 2010*, Cairo (Nov 29–Dec 1) 2010.
49. **A. Hedar** and M. Kamel, "Scatter Programming", *2nd International Conference on Computer Technology and Development, ICCTD 2010*, Cairo, Egypt, November 2–4, 2010.
50. **A. Hedar** and R. Ismail "Hybrid Genetic Algorithm for Minimum Dominating Set Problem", *Computational Science and Its Applications - ICCSA 2010*, Fukuoka, Japan, March 23–26, 2010.
51. **A. Hedar** and A.F. Ali, "Tabu Search with variable partitioning for high dimensional problems", *Informatics and Systems*, Cairo, Egypt, March 28–30, 2010.
52. **A. Hedar** and A.M. Abdel-Aziez, "Tabu Search with Adaptive Search Memory for Data Clustering", *21st International Conference on Computer Theory and Applications (ICCTA 2011)*, Alexandria, Egypt, October 15–17, 2011.

53. M.H. Afif and **A. Hedar**, "Data Classification Using Support Vector Machine Integrated with Scatter Search Method", 2012 Japan-Egypt Conference on Electronics, Communications and Computers (JEC-ECC12), Alexandria, Egypt, March 6–9, 2012.
54. M.A. Atiea, Y.B. Mahdy, and **A. Hedar**. "Hiding Data in FLV Video File." *Advances in Computer Science, Engineering & Applications*. Springer Berlin Heidelberg, (2012) 919–925.
55. M.A. Atiea, Y.B. Mahdy, and **A. Hedar**. "Poor Quality Watermark Barcodes Image Enhancement." *Advances in Computer Science, Engineering & Applications*. Springer Berlin Heidelberg, (2012) 913–918.
56. M.H. Afif, **A. Hedar**, T.H. Abdel-Hamid and Y.B. Mahdy. "Parameter determination of support vector machine using scatter search approach." In *22nd International Conference on Computer Theory and Applications (ICCTA) 2012*, (pp. 181–186), IEEE, 2012.
57. **A. Hedar**, A. Abdelsamee, A. Fouad and S.T. Amin. "Advanced Parallel Genetic Algorithm with Gene Matrix for Global Optimization." In *Advanced Machine Learning Technologies and Applications*, pp. 295-303. Springer Berlin Heidelberg, 2012.
58. M.H. Afif, **A. Hedar**, T.H. Abdel-Hamid and Y.B. Mahdy. "Support Vector Machines with Weighted Powered Kernels for Data Classification." In *Advanced Machine Learning Technologies and Applications*, pp. 369–378. Springer Berlin Heidelberg, 2012.
59. T.H. Soliman, M.A. Elmasry, **A. Hedar** and M.M. Doss. "Utilizing support vector machines in mining online customer reviews." In *22nd International Conference on Computer Theory and Applications (ICCTA) 2012*, pp. 192–197, IEEE, 2012.
60. T.H. Soliman, M.A. Elmasry, **A. Hedar** and M.M. Doss. "Mining social networks Arabic slang comments." In *Proceedings of IADIS European Conference on Data Mining 2013 (ECDM'13)*, 22 – 24 July, 2013, Prague, Czech Republic.
61. A. Fahim and **A. Hedar**. "Hybrid scatter search for integer programming problems." *9th International Conference on Informatics and Systems (INFOS)*, IEEE, 2014.
62. M. Almaraashi and **A. Hedar**. "Optimization of interval type-2 fuzzy logic systems using tabu search algorithms." *Sixth World Congress on Nature and Biologically Inspired Computing (NaBIC)*, IEEE, 2014.
63. M.M. Ahmed, **A. Hedar**, and H.M. Ibrahim. "Prediction of Software Defect Severity based on Analysis of Software Repositories." In: *1st Africa and Middle East Conference on Software Engineering (AMECSE 2014)*, Social Media and Publicity, 2014.
64. M.M. Ahmed, **A. Hedar**, and H.M. Ibrahim. "Predicting Bug Category Based on Analysis of Software Repositories." In: *IIE Conference*, March 21–22, 2014 Dubai (UAE).
65. **A. Hedar**, M.A. Omer and A.A. Sewisy, "Rough sets attribute reduction using an accelerated genetic algorithm. In: *16th IEEE/ACIS International Conference on Software Engineering, Artificial Intelligence, Networking and Parallel/Distributed Computing (SNPD)*, 2015.
66. **A. Hedar**, M.A. Omer, A.F. Al-Sadek and A.A. Sewisy, "Hybrid evolutionary algorithms for data classification in intrusion detection systems." In: *16th IEEE/ACIS International Conference on Software Engineering, Artificial Intelligence, Networking and Parallel/Distributed Computing (SNPD)*, 2015.
67. **A. Hedar**, R. Ismail, G.A. El Sayed and K.M.J. Khayyat, "Two Meta-Heuristics for the Minimum Connected Dominating Set Problem with an Application in Wireless Networks." In: *2nd ACIS International Conference on Computational Science and Intelligence (CSI 2015)*, IEEE, 2015.
68. **A. Hedar**, "Adaptive Memory Matrices for Automatic Termination of Evolutionary Algorithms." In: *4th International Conference on Informatics and Application*, July 20–22, 2015, Takamatsu, Japan, 2015.
69. **A. Hedar**, A.E. Abdel-Hakim and M. Almaraashi, "Granular-Based Dimension Reduction for Solar Radiation Prediction Using Adaptive Memory Programming." In *Proceedings of the 2016 on Genetic and Evolutionary Computation Conference Companion*, Tobias Friedrich (Ed.). ACM, New York, NY, USA, 929–936.
70. **A. Hedar** and A.A. Allam. "Scatter Search for Simulation-Based Optimization." In *Computer and Applications (ICCA)*, 2017 International Conference on, pp. 244–251. IEEE, 2017.

71. **A. Hedar**, A.M. Ibrahim, A.E. Abdel-Hakim, and A.A. Sewisy. "Modulated clustering using integrated rough sets and scatter search attribute reduction." In Proceedings of the 2018 on Genetic and Evolutionary Computation Conference Companion, pp. 1394-1401. ACM, 2018.
72. **A. Hedar** and G.A. El-Sayed. "Parallel genetic algorithm with elite and diverse cores for solving the minimum connected dominating set problem in wireless networks topology control." In Proceedings of the 2nd International Conference on Future Networks and Distributed Systems, 27. ACM, 2018.

### Technical Reports

73. E. Mabrouk, **A. Hedar** and M. Fukushima, "Memetic Programming Algorithm with Automatically Defined Functions", Technical Report 2010-015, Department of Applied Mathematics and Physics, Kyoto University (November 2010).
74. **A. Hedar**, E. Mabrouk and M. Fukushima, "Tabu Programming Method: A New Evolutionary Algorithm Using Tree Data Structures for Problem Solving", Technical Report 2008-004, Department of Applied Mathematics and Physics, Kyoto University (April 2008).
75. **A. Hedar**, B.T. Ong and M. Fukushima, "Genetic algorithms with automatic accelerated termination", Technical Report 2007-002, Department of Applied Mathematics and Physics, Kyoto University (January 2007).

### PhD & Master Students

1. **Ong Bun Theang**, "On Automatic Termination Criteria for Evolutionary Computing", Faculté Polytechnique de Mons, Belgium, 2006.
2. **Karim Taha Elgindy**, "Chebyshev Approximation for Solving Differential Equations and Integral Equations and Nonlinear Programming Problems", M.Sc., Assiut University, Egypt, 2008.
3. **Majig Mend Amar**, "Studies on Global Optimization Approach for General Variational Inequality Problems", Ph.D., Kyoto University, Japan, 2009.
4. **Emad Hamdy Mabrouk**, "Meta-Heuristics Programming and Its Applications", Ph.D., Kyoto University, Japan, 2011.
5. **Ahmed Fouad Ali**, "Developing Efficient Computational Intelligence Techniques for Protein 3D-Structure Prediction", Assiut University, Egypt, 2011.
6. **Alaa Fahim mohamed Fahim**, "Design Efficient Genetic Algorithms for Mixed Variable Programming", M.Sc., Assiut University, Egypt, 2011.
7. **Mostafa Kamel Osman**, "Designing Machine Learning Tools Based on Meta- heuristics Programming", Cairo University, Egypt, 2011.
8. **Rashad Ali Faree**, "Design Meta-Heuristics Methods for Minimum Dominating Set Problem in Graph Theory", Ph.D., Assiut University, Egypt, 2011.
9. **Ahmed Mohamed Abd Elmoniem Sayed**, "Routing Optimization of Mobile Ad-Hoc Networks Based on Ant Colony Algorithms", M.Sc., Assiut University, Egypt, 2012.
10. **Mohamed Ali Attia**, "Novel Multimedia Data Hiding Schemes", Ph.D., Assiut University, Egypt, 2012.
11. **Hosam Reafat**, "Parallel Data Mining for Association Rules on Shared-Memory", Ph.D., Assiut University, Egypt, 2013.
12. **Sara Salah Mohamed**, "Swarm Intelligence in Data Mining", Ph.D., Assiut University, Egypt, 2013.
13. **Abdel-Moaneam Ibrahim**, "Design Computational Intelligence Methods for Attribute Reduction", Association and Classification, Ph.D., Al-Azhar University, Egypt, 2013.
14. **Mostafa Ali Mahmoud Mohammed**, "Mining Opining Features in Users Reviews", M.Sc., Assiut University, Egypt, 2013.
15. **Shada Nabeel Abdel-Aziz**, "Design Efficient Meta-Heuristic Algorithms for Graph Domination", M.Sc., Assiut University, Egypt, 2013.
16. **Amr Mohmmmed Abdel-Aziz**, "Hybrid computational intelligence methods for database intrusion detection", M.Sc., Assiut University, Egypt, 2013.



17. **Amr Abdel-Samea**, "Design Hybrid Parallel Meta-Heuristics for High Dimensional Problems", M.Sc., Assiut University, Egypt, 2013.
18. **Mohamed Abdul-Allah Bakr**, "Hybrid Computational Intelligence Methods for Vehicle Routing Problems", M.Sc., Assiut University, Egypt, 2013.
19. **Mohamed Ahmed Yousef Bakeir**, "Computational Algorithms for Some Fluid Flow", M.Sc., Assiut University, Egypt, 2013.
20. **Essraa Farouk Abu Elmajd**, "Design Multiple Path Test Data Generators Based on Metaheuristics", M.Sc., Assiut University, Egypt, 2014.
21. **Amira Ahmed Abdel-Monsef Allam**, "Development of Efficient Evolutionary Algorithms for Simulation Based Optimization", M.Sc., Assiut University, Egypt, 2014.
22. **Ahmed Hosny Mahammed Ibrahim**, "Design an Optimized Model for Resources Allocation in Private Cloud", M.Sc., Assiut University, Egypt, 2014.
23. **Mohammed Hameed Awad Afif**, "Developing Hybrid Machine Learning Tools for Intelligent Data Classification", Ph.D., Assiut University, Egypt, 2014.
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