

ELSAYED ELSAYED METWALLI BADR, Ph.D.



Full Professor of Computer Science
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ORCID ID: <https://orcid.org/0000-0002-7666-1169>

Publons HomePage: <https://publons.com/research/3098828/elsayed-badr>

ResearchGate: https://www.researchgate.net/profile/El-Sayed_Badr

Googl Scholar: <https://scholar.google.com/citations?user=1mypc5oAAAAJ>

Scopus: <https://www.scopus.com/authid/detail.uri?authorId=57038628100>

BIO

Elsayed Badr is a full professor of computer science at Faculty of Computers & Artificial Intelligence, Benha University, Egypt. Prof. Dr. Badr received his Ph.D. degree in Parallel Algorithms (mainly in parallel programming applications) in 2006 from the University of Macedonia; Greece. He has worked on several research topics. He has contributed more than 50+ technical papers in the areas of Artificial Intelligence, Machine learning, Data Science, wireless networks, High-Performance Computing, Cloud Computing, graph algorithms, neutrosophic theory and Mathematical Programming in international journals and conferences.

EDUCATION

1994 B. Sc. Degree in Mathematics, Faculty of Science, Benha University, Benha, Egypt.

2000 M. Sc. Degree in Pure Mathematics, Faculty of science, Benha University Benha, Egypt.

2006 Ph.D. in Applied Informatics, Department of Applied Informatics, Macedonia University, Thessaloniki, Greece.

PROFESSIONAL EXPERIENCE

- 1994-2000** Demonstrator, Mathematics & Computer Science Department
Faculty of science, Benha University, Benha, Egypt.
- 2000-2006** Assistance Lecturer, Mathematics & Computer Science
Department Faculty of Science, Benha University, Benha, Egypt.
- 2002-2006** Young Researcher, Macedonia University, Applied Informatics
Department, Thessaloniki, Greece.
- 2006-2007** Lecturer, Faculty of computer science &informatics, Department
of scientific computing, Benha University, Benha, Egypt.
- 2007-2011** Assist. Prof. , Computer Science Department, Qassim University,
Qassim, Saudi Arabia.
- 2011-2-014** Lecturer, Faculty of computer science & Artificial Intelligence,
Department of scientific computing, Benha University, Benha,
Egypt
- 2014-2021** Assist. Prof., Faculty of computer science & Artificial Intelligence,
Department of scientific computing, Benha University, Benha,
Egypt
- 2021-Now** Full Professor, Faculty of computer science & Artificial
Intelligence, Department of scientific computing, Benha,
University, Benha, Egypt
- 2021-Now** Head of computer science Department, Higher Technological
Institute, 10th of Ramadan City, Egypt

COURSES THOUGHT

A) Undergraduate	
Big Data analytics	Information Visualization
Parallel Programming (MPI)	Introduction to Information systems
Distributed systems	Linear Programming
Networking / security	Operations research
Introduction to computer science	Mathematical Programming
Intr. to the Analysis of Algorithms	Image Processing
Data Structures	Graph Theory
Artificial Intelligence	Discrete Mathematics
Combinatorics	Linear Algebra
Numerical Analysis	Language Programming I (Java,C , C++ , Fortran and Pascal)

A) Postgraduate	
Distributed Systems	Analysis and Design of Algorithms
Image processing	Algorithms and programming for scientific computing
Advanced Optimization	Graph Theory
Operations Research	Linear programming

FIELDS OF INTEREST

- Artificial Intelligence
- Machine Learning
- Data Science
- Parallel Programming (MPI).
- Combinatorial Optimization
- Design and Analysis of Algorithms
- Visualization Algorithms
- Linear Programming
- Fuzzy Theory
- Neutrosophic Theory
- Graph Theory

Information Technology Skills

- MATLAB
- C Language
- C++ Language
- Visual Basic
- Fortran Language
- Pascal Language
- Office XP
- Windows, Unix, Linux
- OTHERS

Reviewed Journals

Mathematics (MDPI)

IEEE Access

Discrete Mathematics

PeerJ Computer Science

Asian Research Journal of Mathematics

Neutrosophic sets and systems

Punjab University Journal of Mathematics

British Journal of Mathematics & Computer Science
 International Journal of Soft Computing, Mathematics and Control (IJSCMC)
 International Journal of Applied Metaheuristic Computing (IJAMC) IGI Publisher
 The 5th International Conference on Fuzzy Systems and Data Mining (FSDM 2019)
 2020 International Conference on Innovation and Intelligence for Informatics,
 Computing and Technologies (3ICT)
 2020 International Conference on Data Analytics for Business and Industry

SCIENTIFIC ACTIVITIES

4 th Int. Conference on Mathematics and Its Applications Hurghada, 7 – 9 October 2021, Egypt	2021
The 1 st International Conference on Information Technology 2019 (IEEE/ITMUSTCONF). Cairo, Egypt.	
2 nd International Conference on Mathematics, Statistics & Information Technology (2nd ICMSIT-2018) 18-20 Dec 2018, Tanta, Egypt.	2018
4 nd International Conference on Mathematics and Information Science, 5-7Feb.2015,Zewail City of Science and Technology, Cairo, Egypt.	2015
7 th International Conference on Mathematics and Engineering Physics (ICMEP-7),Military Technical College,Kobry Elkobbah, Cairo, Egypt, May 29-31,2014.	2014
• 2 nd International Conference on Mathematics and Information Science, Sohag, Egypt.	2012
• 5 th International Conference of Mathematics and Engineering physics (ICMEP-5), Egypt.	2011
• 1 st International Conference on Mathematics and Statistics, Sharjah, U.A.E.	2010
• 3 rd International Computer Engineering Conference. Cairo, Egypt .	2010
• 1thInternational Conference Computer Science From Algorithms To Applications, Egypt.	2009
• 18 th Conference of Hellenic Operartional Research Society (HELORS), Greece.	2006
• 17 th Conference of Hellenic Operational Research Society (HELORS), Greece.	2005

Publications:

A. Dissertation and Thesis

A.1 El-Said Badr, *Parallel Programming Algorithms for Linear programming Problems*, Ph. D. Thesis Applied Informatics Department, Macedonia University, Thessaloniki, Greece.

A. 2 El-Said Badr, *On the Partially Ordered Sets and its Applications*, M. Sc. Thesis, Mathematics & Computer Science Department, Faculty of Science, Benha University, 2000.

B. Book Chapters:

1- El-Sayed Badr, Mustafa Abdul Salam and Florentin Smarandache (2019)" Solving Neutrosophic Linear Programming Problems with Two-Phase Approach" In book: Neutrosophic Sets in Decision Analysis and Operations Research Publisher: IGI Global Dissmenator knowledge

C. Publications:

International Journals:

1- Elsayed Badr, Mustafa Abdul Salam, Sultan Almotairi, Hagar Ahmed, "New Sequential and Parallel Support Vector Machine with Grey Wolf Optimizer for Breast Cancer Diagnosis", Alexandria Engineering Journal, 2021. [ISI indexed: **Impact Factor 2.462**]

2-Elsayed Badr, Atef Abd El-hay, Hagar Ahmed1 and Mahmoud Moussa, " Polynomial, Exponential and Approximate Algorithms for Metric Dimension Problem, International J.Math. Combin. Vol.2(2021), 51-67. [ISI indexed: **Impact Factor 2.012**]

3- Elsayed Badr, Mustafa Abdul Salam, Sultan Almotairi, Hagar Ahmed, "From Linear Programming Approach to Metaheuristic Approach: Scaling Techniques", Complexity, vol. 2021, Article ID 9384318, 10 pages, 2021. <https://doi.org/10.1155/2021/9384318> [ISI indexed: **Impact Factor 2.462**]

4- Badr, Elsayed; Almotairi, Sultan; Ghamry, Abdallah E. 2021. "A Comparative Study among New Hybrid Root Finding Algorithms and Traditional Methods" Mathematics 9, no. 11: 1306. <https://doi.org/10.3390/math9111306> [ISI indexed: **Impact Factor 1.747**]

5- El-Sayed Badr, Aman, Elrayes, Ashraf Elrokh and Aya Rabie (2021), The signed product cordial for corona between paths and the fourth power of cycles, international journal of mathematical combinatorics, Vol. 3, 2021.

6- El-Sayed Badr, Essam Elsaedy, Amani Elrayes and Aya Rabie, (2021), Dual Artificial Variable-Free Simplex Algorithm for Solving Neutrosophic Linear Programming Problems, Neutrosophic Sets and Systems, Vol. 46, 2021

6- El-Sayed Badr, Shokry Nada, Ashraf Elrokh and Saeed Ali, (2021), Solving Neutrosophic Linear Programming Problems Using Exterior Point Simplex Algorithm, Neutrosophic Sets and Systems, Vol. 46, 2021

7- Daa Salama AbdELminaam, Abdulrhman M. Almansori, Mohamed Taha, Elsayed Badr (2020) " A deep facial recognition system using computational intelligent algorithms" PLoS ONE 15(12): e0242269. <https://doi.org/10.1371/journal.pone.0242269> [ISI indexed: **Impact Factor 2.942**]

8- E. Badr, S. Almotairi, A. Elrokh, A. Abdel-Hady and B. Almutairi, "An Integer Linear Programming Model for Solving Radio Mean Labeling Problem," in *IEEE Access*, vol. 8, pp. 162343-162349, 2020, doi: 10.1109/ACCESS.2020.3021896 [ISI Indexed: **Impact Factor 3.745**]

9- E. M. Badr and H. elgendy (2020) "A Hybrid water cycle - particle swarm optimization for solving the fuzzy underground water confined steady flow" Indonesian Journal of Electrical Engineering and Computer Science Vol 19, No 1: 2020 [ISI Indexed: **Impact Factor 0.917**]

10- Elsayed Badr, Mustafa Abdulsalam and Hagar Ahmed. "The impact of scaling on Support Vector Machine in Breast Cancer Diagnosis", International Journal of Computer Applications 175(19):15-19, September 2020

11- E. M. Badr and Sultan Almotiari (2019) " On a Dual Direct Cosine Simplex Type Algorithm and Its Computational Behavior" Mathematical Problems in Engineering Volume 2020, Article ID 7361092, 8 pages. <https://doi.org/10.1155/2020/7361092>. [ISI Indexed: **Impact Factor 1.009**]

12-M.I.Moussa and E. M. Badr (2019) "A Data Hiding Algorithm Based on DNA and Elliptic Curve Cryptosystems" Journal of Information Hiding and

Multimedia Signal Processing Volume 10, Number 3, September 2019 [ISI Indexed: **Impact Factor 1.61**]

13- Badr, E.M., Moussa, M.I. An upper bound of radio k -coloring problem and its integer linear programming model. *Wireless Netw* 26, 4955–4964 (2020). <https://doi.org/10.1007/s11276-019-01979-8> [ISI Indexed: **Impact Factor 2.4**]

14- E. M. Badr and K. Aloufi (2019) " An Exact Parallel Algorithm for the Radio k -coloring Problem" DOI: [10.20944/preprints201911.0232.v1](https://doi.org/10.20944/preprints201911.0232.v1) **preprint.**

15-E. M. Badr and K. Aloufi (2019) " A Robot's Response Acceleration Using the Metric Dimension Problem" DOI: [10.20944/preprints201911.0194.v1](https://doi.org/10.20944/preprints201911.0194.v1) **preprint.**

16- E. M. Badr and K. Aloufi (2019) " On a Dual Direct Cosine Simplex Type Algorithm and Its Computational Behavior" DOI: [10.20944/preprints201911.0262.v1](https://doi.org/10.20944/preprints201911.0262.v1) **preprint.**

17- E M Badr, Mustafa Abdul Salam, Mahmoud Ali and Hagar Ahmed. "Social Media Sentiment Analysis using Machine Learning and Optimization Techniques". *International Journal of Computer Applications* 178(41):31-36, August 2019.

18- Elsayed Badr, Mustafa Abdulsalam and Hagar Ahmed. The impact of scaling on Support Vector Machine in Breast Cancer Diagnosis. *International Journal of Computer Applications* 175(19):15-19, September 2020.

19-E. M. Badr and B. Mohamed (2018), A Combinatorial Approach for the Spanning Tree Entropy in Complex Network, *International Journal of Mathematical Combinatorics*, *International J.Math. Combin.* Vol.4(2018), 1-17 [ISI Indexed: **Impact Factor 1.743**]

20-E. M. Badr and B. Mohamed (2018)" Linear Algebra and Number of Spanning Trees" *World Applied Sciences Journal* 36 (7): 888-895, 2018. [ISI Indexed : **SJR 0.16**]

21-E. M. Badr and B. Mohamed (2017), Complexity of Linear and General Cyclic Snake Networks, *International Journal of Mathematical Combinatorics*, Vol.3(2017), 57-70 [ISI Indexed: **Impact Factor 1.743**]

22-M.I.Moussa and E. M. Badr (2016) Ladder and Subdivision of Ladder graphs with pendant edges are odd graceful, journal on application of graph theory in wireless Ad hoc networks and sensor networks (GRAPHS-HOC) Vol.8, No.1, March 2016

23-E. M. Badr and B. Mohamed (2015) ,"Generating Recursive Formulas for the Number of Spanning Trees in Cyclic Snakes Networks", 4th International Conference on Mathematics and Information Science, 5-7Feb.2015,Zewail City of Science and Technology, Cairo, Egypt.

24-E. M. Badr (2015) " On Graceful Labeling of the Generalization of Cyclic Snakes" Journal of Discrete Mathematical Sciences and Cryptography 18 (6), 773-783, 2015 [ISI Indexed: **Impact Factor 0.7**]

25- E. M. Badr (2014) "On Fuzzy Exterior Point Simplex Method for Solving Linear Programming Problems with Fuzzy Numbers",7th International Conference on Mathematics and Engineering Physics (ICMEP-7),Military Technical College,Kobry Elkobbah, Cairo, Egypt, May 29-31,2014.

26-E.M. Badr (2014), "On Odd Graceful Labeling of the Generalization of Cyclic Snakes", International Journal of Computer Applications (0975 – 8887) Volume 106 – No. 12, November 2014

27-R. M. Farouk , E. M. Badr and M. A. SayedElahl (2014) "RECOGNITION OF CDNA MICROARRAY IMAGE USING FEEDFORWARD ARTIFICIAL NEURAL NETWORK " International Journal of Artificial Intelligence & Applications (IJAIA), Vol. 5, No. 5, September 2014

28- E. M. Badr (2013): Odd Graceful Labeling of the revised friendship graphs, International Journal of Computer Applications, Vol.65, No.11, pp. 1-6.

29- E. M. Badr and M. Abdalaa (2013): Odd Graceful Labeling for the Subdivision of Double Triangles Graphs International Journal of Soft Computing, Mathematics and Control (IJSCMC) Vol. 2, No.1.

30-M. I. Moussa and E. M. Badr (2013): A NEW PARALLEL ALGORITHM FOR COMPUTING MINIMUM SPANNING TREE, International Journal of Soft Computing, Mathematics and Control (IJSCMC) Vol. 2, No.2.

31-R. M. Farouk , E. M. Badr and M. A. SayedElahl (2013): Recognition of cDNA micro-array image based on artificial neural network,, Journal of Computer Vision Approaches, Vol. 1, Issue 1, pp. 1-15.

32- M. I. Moussa and E. M. Badr (2012): A Computational Study for the Graph-Theoretic Version of the Union-Closed Sets Conjecture, International Journal of Computer Applications, Volume 50 – No.12, July 2012.

33- E. M. Badr and M. I. Moussa (2012): ODD GRACEFUL LABELINGS OF CYCLIC SNAKES, Electronic Journal of Nonlinear Analysis and Application, Vol. 6, 115-119.

34- E. M. Badr (2012): On the Odd Gracefulness of Cyclic Snakes With Pendant Edges , Journal on Applications of Graph Theory in Wireless Ad hoc Networks and Sensor Networks (GRAPH-HOC), 4(4), 1 - 9.

35- E. M. Badr (2012): Some Computational Results on MPI Parallel Implementation of Derived Subgraph Algorithm, International Journal of Applied Information Systems (IJ AIS) – ISSN : 2249-0868, Vol.4, No. 8, pp.1-6.

36-E. M. Badr, M. I. Moussa & K. Kathiresan (2011): Crown graphs and subdivision of ladders are odd graceful, International Journal of Computer Mathematics, 88:17, 3570- 3576.

D. Publications:

International Conference

O. Elsayed Badr, Shokry Nada, Mohammed M. Ali Al-Shamiri, Atef Abdel-Hay, Ashraf ELrokh, "A Novel Mathematical Model for Radio Mean Square Labeling Problem", *Journal of Mathematics*, vol. 2022, Article ID 3303433, 9 pages, 2022. <https://doi.org/10.1155/2022/3303433>

1. Elsayed Badr, Shokry Nada, Ashraf Elroukh and Saeed Ali, (2021), Dual Cosine Simplex Algorithm for Neutrosophic Linear Programming Problems, 4th Int. Conference on Mathematics and Its Applications Hurghada, 7 – 9 October 2021, Egypt

2. Elsayed Badr, Shokry Nada, Ashraf Elroukh and Shima Ramadan, (2021), Radio Number of triangular snake graphs, 4th Int. Conference on Mathematics and Its Applications Hurghada, 7 – 9 October 2021, Egypt
3. Elsayed Badr, Shokry Nada, Ashraf Elroukh and Hoda Moustafa, (2021), An Integer Linear Programming Model for determining an Upper Bound of a width of Partially Ordered set, 4th Int. Conference on Mathematics and Its Applications Hurghada, 7 – 9 October 2021, Egypt
4. E M Badr, Mustafa Abdul Salam, Hagar Ahmed (2019, April). " Optimizing Support Vector Machine using Gray Wolf Optimizer Algorithm for Breast Cancer Detection". The 1st International Conference on Information Technology (IEEE/ITMUSTCONF). Cairo, Egypt.
- 5- E.M.Badr and Horia Elgendi "A Comparative Study between PSO and FA Algorithms for optimizing the underground water confined steady flow using a fuzzy approach", 2nd International Conference on Mathematics, Statistics & Information Technology (2nd ICMSIT-2018) 18-20 Dec 2018, Tanta, Egypt.
- 6-E. M. Badr (2011), A Parallel Computation of the Graph-Theoretic Version of the Union-Closed Sets Conjecture, 2nd International Conference on Mathematics and Information Science, Sohag, Egypt.
- 7-E. M. Badr (2011), Odd Graceful Labelings of Cyclic Snakes with Pendant Edges, 2nd International Conference on Mathematics and Information Science, Sohag, Egypt.
- 8-Badr and M. I.Moussa (2010) " On Jump- Critical Ordered Sets " 5th International Conference of Mathematics and Engineering physics (ICMEP-5), Egypt.
- 9-E. M. Badr and M. I.Moussa (2010) ,Odd Graceful Labelings Of Cyclic Snakes, 1st International Conference on Mathematics and Statistics, Sharjah, U.A.E.

10-M. I.Moussa and E. M. Badr (2009), Odd Graceful Labelings Of Crown Graphs, 1thInternational Conference Computer Science From Algorithms To Applications, Egypt.

11-E. M. Badr (2009), Odd Graceful Graphs With Pendant Edges, 1thInternational Conference Computer Science From Algorithms To Applications, Egypt.

12-Badr, E., Paparrizos, K., Samaras, N., Baloukas, T. (2006)" Some computational results on the efficiency of an exterior point algorithm", In Proc. of the 18th National Conference of Hellenic Operational Research Society (HELORS).

13-Badr, E., Moussa M., Paparrizos, K., Samaras, N. (2006) "Some Computational results on MPI Parallel Implementation of Dense Simplex Method". In Proc. of World Academy of Science, Engineering and Technology (PWASET), Vol. 23, pp. 39-42, (presented in the Seventeenth International Conference on Computer & Information Science and Engineering (CISE 2006), 10 December, Cairo, Egypt, 2006.

14-Badr, E., Paparrizos, K., Samaras, N., Sifaleras, A. (2005) . On the basis inverse of the exterior point simplex algorithm. In Proc. of the 17th National Conference of Hellenic Operational Research Society (HELORS), 16-18, Rio, Greece, pp. 677-687, 2005.

15-Badr, E., Paparrizos, K., Samaras, N., Baloukas, T. (2005) " A web-based solver for the single source shortest path problem".18th Conference of Hellenic Operational Research Society (HELORS).

E. Technical Report

D.1 Badr, El-Said, (2006), " ***How to Write a Technical Article*** " Technical Report, Mathematics & Computer Science Department Benha University. (in Arabic)

Supervision of M. Sc & Ph. D

M. Sc:

No	Title	Student	Year
1	An Intelligent System for Pattern Recognition with neural network and their applications on images	Mohamed Abd-ellatef Mohey	2011
2	On the number of spanning trees for cyclic snakes graphs	Bassma Mohamed	2018
3	Adding value to Oil and Gas field Using IOT	Talal Alenezi	2018
4	Multiobjective nonlinear programming with applications of water resource problems	Horia elgendy	2019
5	Social Media Sentiment Analysis using Machine Learning and Optimization Techniques	Mahmoud Ali	2020
6	Performance Enhancement of Cloud Computing Security	Mostafa Farag	2020
7	On High performance data mining techniques for cancer diseases	Hagar Ahmed	2021
8	A comparative study between fuzzy and neutrosophic linear programming approaches	Sayed Ali	2021
9	Face Mining System Using a Computational Intelligence Algorithm	Abdelrhman Almansory	2021
10	Microarray data analysis using data mining techniques for breast cancer	Sally Gamal	2021
11	Big data analytics for diagnosing mental diseases using federated learning	Allwan	2020
12	A comparative study between fuzzy approach and neutrosophic approach on the partially ordered sets	Houda Mostafa	2019
13	On graph labeling and its applications	Shimaa Ramadan	2019
14	A Comparative Study between Metaheuristic and mathematical programming Techniques for Solving Optimization Problems	Shimaa Dawod	2021
15	Disaster detection in industrial field using computational intelligence	Aya Albahoti	2020

Ph.D:

No	Title	Student	Year
1	An Efficient Metaheuristic Algorithms in Computing Metric Dimension of Graphs and Its Application in Robotic Navigation	Basma Mohamed	2019
2	Arabic Text Mining using Hybrid Machine Learning Methods	Ola Mohamed	2018
3	New methods for solving linear and nonlinear optimization problems with neutrosophic numbers	Aya Rabie	2022

LANGUAGES

Arabic, English, Greek

SCIENTIFIC VISITS

- Greece (Athens – Thessaloniki – Kozani)
 - Turkey (Estimable -)
 - Saudi Arabia (Al-Madina - Qassim)
 - U.A.E. Sharjah
-

GRANTS

2002 – 2006 Scholarship from STATE SCHOLARSHIP FOUNDATION
Greece , For my Ph.D. Degree.

Books:

-
- *Introduction To Matlab (Arabic)*
 - *Introduction to Computer Science (Arabic)*
 - *Analysis and Design of Algorithms (Arabic)*

References:

- 1- Prof. N. Samaras - Associate Professor - Applied Informatics Department,
Macedonia University, Thessaloniki, Greece (tel : 2310-891866) ,
email: [samaras @ uom.gr](mailto:samaras@uom.gr)
- 2- Prof. Dr. Florentin Smarandache, University of New Mexico, Gallup, NM
87301, USA, email: fsmarandache@gmail.com

3- Prof. Dr. Sultan Almotairi, Associate Professor, Department of Natural and Applied Sciences, Community College, Majmaah University, Al Majma'ah 11952, Saudi Arabia, email: almotairi@mu.edu.sa

tel : 00966548399371

4- Prof. Dr. *Shokry Nada*, Mathematics and Computer Science Department, Faculty of Science Menoufia University, email: Shokry nada@yahoo.com

tel : +201066866939

5- Prof. Dr. Kamal Aldhshan, Faculty of Science, Alazhar University, email: dahshan@gmail.com , tel : +201001462575

Signature

El-said badr