Curriculum Vitae

Dr. Anirban Mukhopadhyay

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PIN-712248, West Bengal, India

Nationality Indian

Date of Birth August 15, 1979

Gender Male

Languages spoken English, Bengali, Hindi

Academic Background

- Ph.D.(Engg.) in Computer Science and Engineering, Jadavpur University, Kolkata, India, 2009. (**Thesis Title - Algorithms for Data Clustering: Application to Knowledge Discovery.**)

- Master of Engineering in *Computer Science and Engineering*, Jadavpur University, Kolkata, India, 2004 (**84.93%, 1st class, 1st rank**).

- Bachelor of Engineering in *Computer Science and Engineering* from National Institute of Technology (Formerly Regional Engineering College), Durgapur India, 2002 (**80.0%, 1st class, Hons., 5th rank**).

- Higher Secondary (10+2) Examination in *Science (Physics, Chemistry, Mathematics, Biology)*, Serampore Union Institution, Serampore, West Bengal, India, 1998 (**90.9%, 1st division, 12th rank in West Bengal out of approx 3,00,000 candidates**).

- Secondary (10th Class) Examination, Mahesh Sri Ramkrishna Ashram Vidayalaya, Mahesh, West Bengal, India, 1996 (**90.55%, 1st division, 28th rank in West Bengal out of approx 5,00,000 candidates**).

Research Interests

Soft and Evolutionary Computing, Multiobjective Optimization, Data Mining and Machine Learning, Computational Biology and Bioinformatics, Crowdsourcing,

Work Experience

India

- Professor, Department of Computer Science and Engineering, University of Kalyani, Kalyani, India, from April 2015 till date.

- Head, Department of Computer Science and Engineering, University of Kalyani, Kalyani, India, from September 2012 to September 2014 and from December 2020 to December 2022.

- Visiting Professor, IIIT Kalyani, Kalyani during July 2015 – June 2016.

- Associate Professor, Department of Computer Science and Engineering, University of Kalyani, Kalyani, India, from 2012 to April 2015.

- Senior Lecturer / Assistant Professor, Department of Computer Science and Engineering, University of Kalyani, Kalyani, India, from August 2009 to April 2012.

- Lecturer, Department of Computer Science and Engineering, University of Kalyani, Kalyani, India, from October 2004 to August 2009.

- Lecturer, Department of Computer Science and Engineering, Meghnad Saha Institute of Technology, Kolkata, India, from July 2004 to October 2004.

Abroad

- Exchange Faculty (with Erasmus+ fellowship), University of Lodz, Poland (May 2023).

- Visiting Scientist, University of Medicine Greifswald, Germany (March 2023 - April 2023).

- Visiting Researcher (With Fulbright-Nehru fellowship), Computer Science Department, Colrado State University, Fort Collins, USA (November 2017 - February 2018).

- Visiting Scientist (with DAAD scholarship), Institute of Bioinformatics, University of Goettingen, Goettingen, Germany (May 2013 - June 2013).

- Visiting Professor, I3S Laboratory, University of Nice Sophia-Antipolis, France (April 2011 - May 2011).

- Post-doctoral Research Fellow, Department of Theoretical Bioinformatics, German Cancer Research Center (DKFZ), Heidelberg, Germany (September 2009 - June 2010).

Courses Taught

Database Management Systems, Computer Architecture and Organization, Operating Systems, Data Structure and Algorithms, Artificial Intelligence, Machine Learning, Soft Computing, Bioinformatics, Data Mining, Statistics and Data Analytics.

Awards/Achievements

- Became Fellow of the West Bengal Academy of Science and Technology, India (2023).

- Received Erasmus+ Fellowship for Teaching Mobility to visit University of Lodz, Poland as an exchange faculty (May 2023).

- Name included in the top 2% Scientists of the world according to the list published by Stanford University in 2020-2023 in the Artificial Intelligence & Image Processing category and in the Bioinformatics category.

- Elevated to ACM Senior Member grade (2022).

- Received Siksha Ratna award from Govt. of West Bengal, India on the occasion of National Teachers' Day (September 5, 2020).

- Received Fulbright-Nehru Academic and Professional Excellence (FNAPE) fellowship 2017-18 for research visit to Colorado State University, USA (November 2017-February 2018).

- Received INAE Young Engineer Award from Indian National Academy of Engineering, India (December 2014).

- Received IEI Young Engineers Award in Computer Engineering Discipline from Institution of Engineers, India (January 2014).

- Awarded by University of Kalyani for contribution in academic and administrative cohesion (January 2014).

- Received DAAD scholarship for research visit at University of Goettingen, Germany (May-June 2013).

- Received second best paper award in the seventh International Conference on Bioinspired Computing: Theories and Applications (BIC-TA 2012) held in Gwalior, India (December 2012).

- Received special paper award in the category of "related fields" in the second IEEE International Conference on Parallel, Distributed and Grid Computing (PDGC 2012) held in Solan, India (December 2012).

- Elevated to IEEE Senior Member grade (2011).

- Post-doctoral fellowship at Heidelberg University and German Cancer Research Center, Germany, under Erasmus Mundus Mobility with Asia (EMMA) (2009).

- Biography has been included in the 2009 Edition of *Marquis Who is Who in the World*.

- Awarded by Jawaharlal Nehru Memorial Fund, New Delhi, for ranking 1st class 1st in M.C.S.E. from Jadavpur University (2004).

- Amitava Dey Memorial Gold Medal for ranking 1st class 1st in Master of Computer Science and Engineering from Jadavpur University (2004).

- University Gold Medal for ranking 1st class 1st in Master of Computer Science and Engineering from Jadavpur University (2004).

- National Fellowship during Master of Engineering on the basis of GATE–2002 (2002-2004).

- Merit scholarship by Regional Engineering College, Durgapur for good academic performance (2001-2002).

- Awarded by West Bengal Council of Higher Secondary Education, for ranking 12th in Higher Secondary Examination, 1998 in West Bengal.

- Awarded National Scholarship by D.P.I., West Bengal, for ranking 28th in Secondary Examination, 1996 in West Bengal.

Funded Research Projects

- Co-Investigator, "*Understanding PCBP2 mediated nuclear retention of the transcripts*", Funded by DST-SERB, Govt. of India, Amount: Rs. 52.43 Lakh, Duration: 2023-2026 (University of Kalyani).

- Principal Investigator, "*Attributed Temporal Weighted Social Network Models for Prediction and Control of Contagious Disease Epidemics*", Funded by DST-SERB, Govt. of India, Amount: Rs. 6.6 Lakh, Duration: 2020-2023 (University of Kalyani).

- Principal Investigator, "*Developing Computational Techniques and Databases for Prediction and Analysis of Host-Pathogen Protein-Protein Interactions Involved in Neglected Tropical Diseases*", Funded by Dept. of Science & Technology and Biotechnology, Govt. of West Bengal, Amount: Rs. 8.61 Lakh, Duration: 2019-2022 (University of Kalyani).

- Researcher, "*Development of a Multiobjective Rank Aggregation Technique for Group Recommendation of Products in E-Commerce Web Portals*", Funded by United States-India Educational Foundation, Amount: USD 14,240, Duration: Nov 2017-Feb 2018 (Colorado State University, USA).

- Researcher, "*Multiobjective Triclustering of Microarray Data for Biomarker Detection in HIV-1-Infected Hosts through Network Analysis*", Funded by DAAD Germany, Amount: Euro 4000, Duration: May-June 2013 (University of Goettingen, Germany).

Memberships in Professional Bodies

- Fellow of West Bengal Academy of Science and Technology, West Bengal, India.

- Senior Member of Institute of Electrical and Electronic Engineers (IEEE) since 2011 (**Membership No. 90467842**).

- Senior Member of Association for Computing Machinery (ACM) since 2023 (**Membership No. 8653987**).

- Member of IEEE Computational Intelligence Society (**Membership No. 90467842**).

- Vice-Chair of IEEE Computational Intelligence Society, Kolkata Chapter (2023-2024).

- Secretary of IEEE Computational Intelligence Society, Kolkata Chapter (2015-2016).

- Young Associate, Indian National Academy of Engineering (INAE).

- Member of International Association of Engineers (IAENG), Hong Kong (**Membership No. 101639**).

Editorial/Reviewing Activities

- Working as an Associate Editor, Transactions of the Indian National Academy of Engineering, Springer.

- Edited Special issue on "Artificial intelligence for extracting phenotypic features and disease subtyping applied to single-cell sequencing data" published in *Frontiers in Genetics* in 2023.

- Edited a thematic series on "Machine Learning and Graph Algorithms for Analysis and Prediction of Protein Structures, Functions and Interactions" published in *BMC Algorithms for Molecular Biology* in 2013-14.

- Edited the proceedings of the First International Conference on Computational Intelligence: Modeling, Techniques and Applications (CIMTA-2013) published in Procedia Technology, Vol. 10, Elsevier, 2013.

- Edited the proceedings of the Second International Conference on Information Systems Design and Intelligent Applications (INDIA-2015) published in AISC, Springer, Vol. 339 & 340, Springer, 2015.

- Organized Special sessions in IEEE WCCI 2016, Vancouver, Canada, IEEE SSCI 2018, Bengaluru, India and IEEE CEC 2019, Wellington, New Zealand.

- Acting as a reviewer of reputed journals from IEEE, ACM, Oxford University Press, Elsevier, Springer, PLoS, BMC, Mary Ann Liebert, Wiley, etc.

- Member of Program Committee of the following National and International Conferences:

    - International Conference on Advances in Recent Technologies in Communication and Computing (ARTCOM-2009), Kerala, India.
    - International Conference on Control, Communication and Power Engineering (CCPE-2010), Chennai, India, July 2010.
    - Second International Conference on Advances in Computing, Control, and Telecommunication Technologies (ACT-2010), Jakarta, Indonesia, December 2010.
    - Second International Conference on Control, Communication and Power Engineering (CCPE-2011), Pune, India, November 2011.
    - International Joint Journal Conferences in Computer, Electronics and Electrical (CEE-2011), 2011.
    - International Conference on Recent Trends in Information Systems (RETIS-2011), Kolkata, India.
    - National Conference on Computing and Communication Systems (NCCCS-2012), Durgapur, India, November 2012.
    - 24th International Conference on Computational Linguistics (COLING-2012), Mumbai, India, December 2012.
    - International Conference on Intelligent Infrastructure (CSI-2012), Kolkata, India, December 2012.
    - International Conference on Computational Intelligence: Modeling, Techniques and Applications (CIMTA-2013), Kalyani, India, September 2013 (as Program Co-chair).

- International Conference on Information Systems Design and Intelligent Applications (INDIA-2015), Kalyani, India, January 2015.
- International Conference on Recent Trends in Information Systems (RETIS-2015), July 2015, Kolkata, India.
- Computational Mathematics and Applications Conference (CMA-2016), January 2016, Bangkok, Thailand.
- IEEE Tensymp-2019, June 2019, Kolkata, India (Track Co-Chair: Computational Intelligence Track).
- IEEE INDICON-2021, December 2021, Guwahati, India (Track Co-Chair: AI & Data Science Track).

- Reviewed research project proposals for following funding agencies:

  - University Grants Commission (UGC), North East Regional Office (NERO), India.
  - Department of Science & Technlogy (DST) SERB, Govt. of India.
  - Austrian Science Fund (FWF), Austria.
  - Swiss National Science Foundation, Switzerland.
  - Fulbright-Nehru fellowship applications from India.

- Acted as Ph.D. Thesis examiner for Jadavpur University, India, University of Calcutta, India, KIIT Bhubaneswar, India, Anna University, India and Universiti Tunku Abdul Rahman, Malaysia.

Academic/Administrative Responsibilities

- Head of the Department, Department of Computer Science and Engineering, University of Kalyani, Kalyani, India during September 2012 - September 2014, and December 2020 - December 2022.

- Member of the Executive Council, University of Kalyani, West Bengal, India during March 2014 - September 2014.

- Member of the Court, University of Kalyani, West Bengal, India during (September 2012 - September 2014) and (December 2020 till date).

- Member of the Faculty Councils, Faculty of Engineering, Technology and Management during September 2012 - September 2014 and since April 2015 till date.

- Chairman of Departmental Research Committee, Department of Computer Science and Engineering, University of Kalyani, Kalyani, India during September 2012 - September 2014 and August 2021 - December 2022.

- Chairman of the post-graduate board of studies in Computer Science and Engineering, University of Kalyani, Kalyani, India during September 2012 - September 2014 and December 2020 - December 2022.

- Member of undergraduate board of studies in Computer Science, University of Kalyani, Kalyani, India from January 2005 till date.

- Coordinator, Kalyani University Research Wing from August 2018 December 2020.

- Coordinator, M.Sc. Programme in Data Science, University of Kalyani from August 2019 till date.

- Member of the working committee of Bioinformatics Infrastructure Facility (BIF) Center, University of Kalyani, Kalyani, India in 2006.

- Member of various committees in University of Kalyani like Admission Committee, CIRM committee (Chair), IQAC-AQAR Committee, NAAC Committee, etc.

- Working as a member of the Board of Studies in The University of Burdwan, W.B.; Vivekananda Centenary College, Rahara, W.B.; MCKV Engineering College, Howrah, W.B.; Asansol Engineering College, Asansol, W.B.

- Paper setter, moderator and examiner in different examinations in other universities and institutes such as Jadavpur University, Kolkata; University of Calcutta, Kolkata; Visbha-Bharati University, Shantiniketan, W.B.; National Institute of Technology, Durgapur, W.B.; IIIT Kalyani, W.B.; Vidyasagar University, W.B.; The University of Burdwan, W.B.; University of Gour Banga, W.B.; Maulana Abul Kalam Azad University of Technology, Kolkata; Vivekananda Centenary College, Rahara, W.B.; University of Engineering and Management (UEM), Kolkata; Aliah University, Kolkata.

- Expert for selection of project-linked personnel in Jadavpur University, Kolkata, Indian Statistical Institute, Kolkata, and National Institute of Biomedical Genomics, Kalyani.

- Acted as an Expert for recruitment and promotion of teachers at University of Calcutta; RCC Institute of Information Technology, Kolkata; Netaji Subhash Engineering College, Kolkata; Ideal Institute of Engineering, Kalyani.

- Acted as Paper Setter of Higher Secondary Examinations, West Bengal and Public Service Commission, West Bengal.

- Acted as an examiner in the West Bengal School Service Examinations.

- Subject expert in West Bengal College Service Commission Interviews in 2019.

Invited Lectures

India

1. *"Data Models"*, Workshop on Database Management Systems, Department of Biotechnology, National Institute of Technology, Durgapur, India, July 2007.

2. *"Genetic Algorithm based Clustering: Application to Microarray Gene Expression Data"*, One day state level seminar on Aspects of Computational Intelligence, RCC Institute of Information Technology, Kolkata, India, November 2008.

3. *"Multiobjective Optimization: Application to Clustering and Biclustering of Microarray Data"*, Winter school on Data Mining, Department of Computer Science and Engineering, National Institute of Technology, Durgapur, India, January 2009.

4. *"Fundamentals of Genetic Algorithms and Multiobjective Optimization: Applications in Bioinformatics"*, Tripura Institute of Technology, Agartala, Tripura, July 2011.

5. *"Multiobjective Interactive Fuzzy Clustering of Gene Expression Data"*, Indian Statistical Institute, Kolkata, India, September 2011.

6. *"Multiobjective Optimization and its Applications Data Mining and Bioinformatics"*, RCC Institute of Information Technology, Kolkata, India, November 2011.

7. *"Genetic Algorithms and Applications"*, The University of Burdwan, Burdwan, India, March 2013.

8. *"Bioinformatics: An Overview"*, The University of Burdwan, Burdwan, India, September 2013.

9. *"Data Clustering: Methods and Applications"*, Siliguri Institute of Technology, Siliguri, India, September, 2013.

10. *"Soft Computing for Data Mining"*, Murshidabad College of Engineering and Technology, TEQUIP-II sponsored two-day seminar on Image Processing & Soft Computing, Berhampore, West Bengal, India November 2013.

11. *"An Introduction to Data Clustering"*, The University of Burdwan, Burdwan, West Bengal, India, December 2014.

12. *"Algorithms for Mining Protein-Protein Interaction Networks"*, Indian National Academy of Engineering (INAE) Annual Convention 2014 (INAE Young Engineer Award Talk), Jaipur, India, December 2014.

13. "*Bioinformatics: Concepts and Applications*", National Conference on Emerging Technologies and Applied Sciences (NCETAS-2015), Modern Institute of Engineering and Technology, West Bengal, India, February 2015.

14. "*Some Applications of Multiobjective Optimization in Bioinformatics*", National Institute of Biomedical Genomics, Kalyani, West Bengal, India, May 2015.

15. "*Mining Large-Scale Biological Networks*", Indo-Chinese Young Engineering Leaders' Conclave, IIT Gandhinagar, Gandhinagar, India, October 2015.

16. "*Multiobjective Genetic Algorithms and Applications*", RCC Institute of Information Technology, Kolkata, West Bengal, India, January 2016.

17. "*An Introduction to Genetic Algorithms: Method and Implementation*", Calcutta Business School, Kolkata, India, March 2016.

18. "*Fundamentals of Genetic Algorithms and Multiobjective Genetic Algorithms*", Calcutta Business School, Kolkata, India, March 2016.

19. "*An Introduction to Clustering Algorithms*", Murshidabad College of Engineering and Technology, Baharampore, West Bengal, India, April 2016.

20. "*Principles of Genetic Algorithms and Applications*", RCC Institute of Information Technology, Kolkata, West Bengal, India, RICCE-2016, July 2016.

21. "*An Introduction to LATEX*", Jadavpur University (Saltlake Campus), Kolkata, West Bengal, India, PMDL-2016, July 2016.

22. "*Technical Document Writing using LATEX*", MCKV Institute of Information Technology, Liluah, Howrah, West Bengal, India, September 2016.

23. "*Use of ICT in Teaching and Learning*", Kalyani Mahavidayalaya, Kalyani, West Bengal, India, January 2017.

24. "*Fundamentals of Genetic Algorithms*", One-day National Symposium, University of Gour Banga, Maldah, West Bengal, India, June 2017.

25. "*Genetic Algorithms and Applications*", Refresher Course, Burdwan University, Burdwan, West Bengal, India, July 2017.

26. "*Multiobjective Evolutionary Optimization: Concepts and Applications*", Techno India University, Kolkata, West Bengal, India, July 2017.

27. "*Multiobjective Genetic Algorithms for Data Clustering*", RCC Institute of Information Technology, Kolkata, West Bengal, India, July 2017.

28. "*Machine Learning in Bioinformatics: Tasks, Issues and Challenges*", Department of Information Technology, Jadavpur University, Kolkata, India, May 2018.

29. "*Single-objective and Multi-objective Genetic Algorithms*", Special lecture, University of Gour Banga, Maldah, West Bengal, India, July 2018.

30. "*Multiobjective Genetic Algorithms with Applications in Bioinformatics and Computational Biology*", International Workshop on Modeling Simulation and Soft Computing, National Institute of Technology, Silchar, Assam, India, August 2018.

31. "*A Graph-Theoretic Study of Hepatitis-C Infection Pathways in Humans using Protein-Protein Interaction Networks*", Annual Meeting of Indian Society of Human Genetics (ISHG-2019), University of Kalyani, India, January 2019.

32. "*Revised Process of NAAC Assessment and Accreditation*", One-day Workshop on Preparation of NAAC 3rd Cycle, Sudhiranjan Lahiri Mahavidyalaya, Majhdia, Nadia, West Bengal, March 2019.

33. "*An Introduction to Genetic Algorithms for Single-objective and Multi-objective Optimization*", Summer School on Dynamics of Complex Systems, International Center for Theoretical Sciences (ICTS), Bangalore, May 2019.

34. "*Association Rule Learning: Concepts and Applications*", Workshop on Machine Learning and IoT, National institute of Technology, Durgapur, June 2019.

35. "*An Introduction to LATEX Beamer Presentations*", RCC Institute of Information Technology, Kolkata, July 2019.

36. "*Data Science: An Introduction*", Asansol Engineering College, Asansol, West Bengal, November 2019.

37. "*Machine Learning in Bioinformatics*", Belur Ramkrishna Mission Vidyamandira, Howrah, West Bengal, February 2020.

38. "*Machine Learning in Bioinformatics*", Belda College, West Bengal, July 2020 (online).

39. "*Multiobjective Genetic Algorithms: Methods and Applications*", Debra College, West Bengal, August 2020 (online).

40. "*Introduction to Google Online Tools*", West Bengal State University, Barasat, West Bengal, November 2020 (online).

41. "*Association Analysis: Concepts, Algorithms and Applications*", Asansol Engineering College, December 2020 (online).

42. "*Multiobjective Genetic Clustering and its Applications*", Keynote at EAIT-2020, University of Kalyani, February 2021 (online).

43. "*Introduction to Latex*", CIRM, University of Kalyani, March 2021 (online).

44. "*Machine Learning Applications in Computational Biology*", JIS College, July 2021 (online).

45. "*Fundamentals of Data Science*", Course on Future Trends of AI, Kolkata, December 2021 (Online).

46. "*Multiobjective Genetic Algorithms and Applications*", ATAL FDP, NIT Agartala, Tripura, January 2022 (online).

47. "*Mining Large-Scale Biological Networks*", Keynote at CICBA-2022, Assam University, Silchar, January 2022.

48. "*Research Metrics*", Kazi Nazrul University, Asansol, West Bengal, January 2022 (online).

49. "*Fundamentals of Clustering Algorithms*", BC Roy Polytechnique College, Durgapur, West Bengal, February 2022 (Online).

50. "*Fuzzy Sets and Neural Networks*", Vidyasagar University, West Bengal, February 2022 (Online).

51. "*Multiobjective Optimization for Clustering: Methods and Applications*", NIT Warangle, India, March 2022 (Online).

52. "*Research Metrics*", Bhairab Ganguly College, Belgharia, West Bengal, May 2022.

53. "*Multiobjective Clustering for Satellite and Medical Image Segmentation*", IEM Kolkata, India, September 2022.

54. "*Some Applications of Multiobjective Evolutionary Optimization in Bioinformatics*" in the One-day Webinar titled "Contemporary Advances in Computational Intelligence", Department of Computer and System Sciences, Visva-Bharati, India, India, December 2022 (Online).

55. "*Evolutionary Algorithms for Optimal Placement of Robotic Facilities*", Central Mechanical Engineering Research Institute, Durgapur, India, January 2023.

56. "*Research Metrics*", Netaji Subhash Open University, Kalyani, India, February 2023.

57. "*Multiobjective Evolutionay Algorithms for Clustering*", JNTU-GV College of Engineering Vizianagaram, Andhrapradesh, India, February 2023.

58. "*Bioinformatics: Where Biology Meets Computation*", Academy of Technology, Adisaptagram, Hooghly, India, August 2023.

59. "*Transforming Education: The AI Revolution*", Gobordanga Hindu College, West Bengal, India, September 2023 (Online).

60. "*Data Science & Machine Learning for IoT: An Overview*", Malda College, West Bengal, India January 2024.

61. "*An Introduction to Convolutional Neural Networks*", Netaji Subhash Engineering College, Kolkata, India, January 2024.

62. "*AI Tools for Data Analysis*", Faculty Development Program on AI Tools for Data Analysis, Organized by CIRM, University of Kalyani, West Bengal, India, February 2024.

63. "*Multiobjective Genetic Algorithms for Clustering: Methods and Applications*", University of Engineering and Management, Kolkata, India, February 2024 (Online).

64. "*Data Science and AI: Unleashing the Power of Data*", 1st monthly colloquium under Vikshit Bharat 2047, Visva-Bharati University, Shantiniketan, West Bengal, India, February 2024.

65. "*Some Applications of Multiobjective Evolutionary Optimization in Bioinformatics*", Invited Lecture at the 4th International Conference on Engineering Mathematics and Computing (ICEMC-2024), Haldia Institute of Technology, Haldia, West Bengal, India, March 2024.

66. "*Data Science & AI: Unleashing the Power of Data*", Inter/Multidisciplinary Refresher Course in Digital Information System and Big data Analytics, Organized by University of Calcutta in collaboration with UGC-HRDC, March 2024 (Online).

67. "*Data Science, AI and Deepfakes: An Overview*", Two-Week Capacity Building Programme for Young Social Science Faculty, Department of Political Science, University of Kalyani, West Bengal, India, 9-22 March 2024.

68. "*Libraries in the Age of Generative AI*", Plenary lecture at National Seminar on Libraries in Next Era (LiNE-2024), Organized by Department of Library and Information Sciences, University of Kalyani, West Bengal, India, March 2024.

Abroad

1. "*Multiobjective Fuzzy Clustering: Application to Microarray Gene Expression Data*", German Cancer Research Center, Heidelberg, Germany, September 2009.

2. "*Evolutionary Multiobjective Fuzzy Clustering and Applications*", I3S Laboratory, University of Nice Sophia-Antipolis, Nice, France, May 2011.

3. "*Predicting Annotated HIV-1–Human Protein Interactions: A Biclustering-based Association Rule Mining Approach*", University of Goettingen, Goettingen, Germany, June 2013.

4. "*Incorporating GO Information in Detecting Protein Complexes from PPI Networks: A Multi-Objective Evolutionary Algorithm-based Approach*", University of Goettingen, Goettingen, Germany, June 2013.

5. "*Multiobjective Genetic Algorithms for Data Clustering*", Keynote lecture in International Conference on Computer and Information Engineering (ICCIE-2015) in Rajshahi University of Engineering and Technology (RUET), Rajshahi, Bangladesh during November 26-27, 2015.

6. "*Multiobjective Genetic Algorithms for Clustering: Method and Applications*", Invited lecture in 3rd Computational Mathematics and Applications Conference (CMA-2016) in Bangkok, Thailand, during January 14-16, 2016.

7. "*Machine Learning in Bioinformatics*", Universitas Islam Indonesia, Invited Lecture at Industrial Engineering Programme, November 21, 2020 (online).

8. "*Computational Analysis and Prediction of Host-Pathogen Protein-Protein Interactions*", Invited Lecture at University of Medicine Greifswald, Greifswald, Germany, March 2023.

9. "*Some Applications of Multiobjective Optimization in Bioinformatics*", Invited lecture at Faculty of Mathematics and Computer Science, University of Lodz, 2023, May 2023.

10. "*A Tutorial on Multiobjective Optimization and its Applications*", Invited lecture at Faculty of Mathematics and Computer Science, University of Lodz, 2023, May 2023.

Conference Presentations

India

1. "*Distributed Approaches for Dynamic Traffic Grooming in WDM Optical Networks*", International Conference on Computers and Devices for Communication (CODEC 2004), Kolkata, India, January 2004.

2. "*Improved Distributed Approaches for Dynamic Traffic Grooming in WDM Optical Networks*", National Conference on Distributed Processing and Networking (DPN 2004), IIT Kharagpur, India, June 2004.

3. "*Distributed Routing and Wavelength Assignment Algorithms for Dynamic WDM All-optical Networks*", 7th International Conference PHOTONICS 2004, Cochin, India, December 2004.

4. "*A Genetic Algorithm for Traffic Grooming in Unidirectional SONET/WDM Rings*", IEEE INDICON 2004, IIT Kharagpur, India, December 2004.

5. "*Multiobjective Fuzzy Clustering: An Evolutionary Approach*", National Conference on Recent Trends in Intelligent Computing (NCRTIC 2006), Kalyani, India, November 2006.

6. "*Efficient Two-stage Fuzzy Clustering of Microarray Gene Expression Data*", 9th International Conference on Information Technology (ICIT 2006), Bhubaneswar, India, December 2006.

7. "*Multiobjective Genetic Fuzzy Clustering of Categorical Attributes*", 10th International Conference on Information Technology (ICIT 2007), Rourkela, India, December 2007.

8. "*Improving Multi-objective Clustering through Support Vector Machine: Application to Gene Expression Data*", IEEE TENCON 2008, Hyderabad, India, November 2008.

9. "*Evolving Coherent and Non-trivial Biclusters from Gene Expression Data: An Evolutionary Approach*", IEEE TENCON 2008, Hyderabad, India, November 2008.

10. "*Unsupervised Satellite Image Segmentation by Combining SA based Fuzzy Clustering with Support Vector Machine*", International Conference on Advances in Pattern Recognition (ICAPR 2009), Kolkata, India, February 2009.

11. "*Multi-objective Genetic Clustering with Ensemble Among Pareto Front Solutions: Application to MRI Brain Image Segmentation*", International Conference on Advances in Pattern Recognition (ICAPR 2009), Kolkata, India, February 2009.

12. "*GOGA: GO-driven Genetic Algorithm-based Fuzzy Clustering of Gene Expression Data*", International Conference on Systems in Medicine and Biology (ICSMB 2010), I.I.T. Kharagpur, India, December 2010.

13. "*Mining Association Rules from HIV-Human Protein Interactions*", International Conference on Systems in Medicine and Biology (ICSMB 2010), I.I.T. Kharagpur, India, December 2010.

14. "*CLUSTER: A Matlab GUI Package for Data Clustering*", International Conference on Matlab Applications in Engineering & Technology (ICMAET 2012), Bangalore, India, January 2012.

15. "*Predicting Annotated HIV-1 Human PPIs using a Biclustering Approach to Association Rule Mining*", Emerging Applications of Information Technology (EAIT 2012), ISI, Kolkata, India, November-December 2012.

16. "*A Hybrid Multiobjective Particle Swarm Optimization Approach for Non-redundant Gene Marker Selection*", Seventh International Conference on Bio-Inspired Computing: Theories and Application (BIC-TA 2012), IIITM, Gwalior, India, December 2012.

17. "*Interactive Approach to Multiobjective Genetic Fuzzy Clustering for Satellite Image Segmentation*", IEEE UPCON 2016, IIT-BHU, India, December 2016.

18. "*Multiobjective Differential Evolution for Predicting Protein-Protein Interactions using GO-based Semantic Similarity Measures*", COMSYS-2022, IIT Ropar, India, December 2022.

Abroad

1. *"Discovering Coherent Biclusters from Microarray Gene Expression Data"*, International Conference on Artificial Intelligence and Applications (AIA 2010), Innsbruck, Austria, February 2010.

2. *"Discovery of MicroRNA Markers: An SVM-based Multiobjective Feature Selection Approach"*, Eighth International Symposium on Computational Intelligence in Bioinformatics and Computational Biology (CIBCB-2011) (Part of IEEE Sysmposium Series on Computational Intelligence, SSCI-2011), Paris, France, April 2011.

3. *"A Multi-objective Evolutionary Framework for Identifying Dengue Stage-Specic Differentially Co-expressed and Functionally Enriched Gene Modules"*, International Conference on Evolutionary Multi-criterion Optimization (EMO-2023), Leiden, Netherlands, March 2023.

Conferences/Workshops Organized

1. Organizing Chair, Workshop on Computational Methodologies and Applications (CMA-2013), Department of Computer Science and Engineering, University of Kalyani, India, April 22-23, 2013.

2. Program Chair, First International Conference on Computational Intelligence: Modeling, Techniques and Applications (CIMTA 2013), Department of Computer Science and Engineering, University of Kalyani, India, September 27-28, 2013.

3. Organizing Chair, Workshop on Computational Methodologies and Applications (CMA-2014), Department of Computer Science and Engineering, University of Kalyani, India, March 20, 2014.

4. Program Co-chair, 2nd International Conference on Information Systems Design and Intelligent Applications (INDIA-2015), University of Kalyani, India, January 8-9, 2015.

5. Website Development Chair and Program Co-chair, First International Conference on Intelligent Computing and Communication (ICIC2-2016), University of Kalyani, India, January 18-19, 2016.

6. Organizing Secretary, Workshop on Recent Advances on Computational Intelligence and IEEE CIS Distinguished Lecture Programme, Indian Statistical Institute, Kolkata, India, November 22, 2016.

7. Workshop Course Coordinator, Workshop on Scientific Writing, Department of Computer Science and Engineering, University of Kalyani, India, April 22-26, 2019.

8. Course Coordinator, Data Science Summer Training, University of Kalyani, July 2-22, 2019.

9. Track Co-chair, Computational Intelligence track, IEEE Tensymp-2019, Kolkata, India, June 7-9, 2019.

10. Track Co-chair, AI and Data Science Track, IEEE INDICON-2021, IIT Guwahati, India, December 19-21, 2021.

Other Conferences/Seminars/Workshops Attended

1. Workshop on Engineering Design Optimization, Jadavpur University, Kolkata, India, 10th September, 2005.

2. One day program on retraining of College Teachers on Operating Systems, Jadavpur University, Kolkata, India, 7th December, 2006.

3. Machine Learning and Pattern Evolution Methods in Chemo and Bioinformatics, C-DAC and NCL, University of Pune, Pune, India, 26-29 June, 2007.

4. Refresher course on Computer Applications, Department of Computer Science and Engineering, University of Kalyani, Kalyani, India, 8-28 January, 2008.

5. 4th Workshop on Nanocomputing and Biochips (Nano-Bio 2011), Indian Statistical Institute, Kolkata, India, 1-2 March, 2011.

6. International Conference on Emerging Applications of Information Technology (EAIT 2012), ISI, Kolkata, India, November-December 2012.

7. International Conference on Advances in Pattern Recognition (ICAPR-2015), Kolkata, India, January 2015.

8. International Conference on Advancement of Computer Communication and Electrical Technology (ACCET-2016), Baharampore, West Bengal, India, October 2016.

9. Academic Leadership Programme, National Institute of Educational Planning and Administration, January 2019.

Ph.D. Theses Supervision

1. **Papun Biswas** (At University of Kalyani, India) on "*Soft Computing Approaches to Multiobjective Decision making in Uncertain Environment: Applications to Power System and Other Real-life Problems*" (**Awarded in 2016**). (Jointly supervised with Prof. Bijay Baran Pal, Dept. of Mathematics, KU).

2. **Monalisa Mandal** (At University of Kalyani, India) on "*In Silico Approaches to Cancer Biomarker Discovery*" (**Awarded in 2016**).

3. **Bandana Barman** (At University of Kalyani, India) on "*Computational Inference of Metabolic Pathways of a Disease through Construction of Gene Regulatory Network from Time Series Gene Expression Data: Methods and Applications*" (**Awarded in 2017**).

4. **Sumanta Ray** (At Jadavpur University, India) on "*Development of New Computational Methods for Predicting Modules in Large Networks*" (**Awarded in 2017**). (Jointly supervised with Prof. Ujjwal Maulik, Dept. of Computer Sc. & Engg., JU and Prof. Sanghamitra Bandyopadhyay, Director, ISI Kolkata).

5. **Saurav Mallik** (At Jadavpur University, India) on "*Computational and Statistical Approaches in Data Mining and Bioinformatics*" (**Awarded in 2017**). (Jointly supervised with Prof. Ujjwal Maulik, Dept. of Computer Sc. & Engg., JU and Prof. Sanghamitra Bandyopadhyay, Director, ISI Kolkata).

6. **Sujoy Chatterjee** (At University of Kalyani, India) on "*Judgment Analysis based on Crowdsourced Opinions*" (**Awarded in 2018**). (Jointly supervised with Dr. Malay Bhattacharyya, Dept. of IT, IIEST, Shibpur).

7. **Lopamudra Dey** (At University of Kalyani, India) on "*Developing Computational Tools and Databases for Prediction and Analysis of Disease-Associated Protein Interactions*" (**Awarded in 2021**).

8. **Paramita Biswas** (At University of Kalyani, India) on "*Algorithms for Mining Disease Related Biological Networks*" (**Awarded in 2022**).

9. **Sk Md Mosaddek Hossain** (At University of Kalyani, India) on "*Computational Studies for Understanding Topological Structures of Complex Biological Networks*". (Jointly supervised with Dr. Sumanta Ray, Dept. of Computer Sc. & Engg., Aliah University) (**Awarded in 2022**).

10. **Ranjan Barman** (At Jadavpur University, India) on "*Machine Learning Approaches for Mining Protein-Protein Interactions and Virulence Gene Sequences*". (Jointly supervised by Prof. Ujjwal Maulik, Dept. of Computer Sc. & Engg., JU and Dr. Santasabuj Das, NICED, Kolkata) (**Awarded in 2023**).

11. **Anindita Sarkar Mondal** (At Jadavpur University, India) on "*Object Based Cloud Data Storage System*". (Jointly supervised with Prof. Samiran Chattopadhyay, Dept. of Information Technology, JU) (**Awarded in 2023**).

12. **Lutfunnesa Khatun** (At University of Kalyani, India) on "*Knowledge-based Multi-omics Approaches for Exploring Temporal Dynamics in Biological Networks*" (**Registered with DST INSPIRE fellowship**). (Jointly supervised with Dr. Sumanta Ray, Dept. of Computer Sc. & Engg., Aliah University).

13. **Mitrajyoti Kushari** (At University of Kalyani, India) on analysis and prediction of protein-protein interactions involved in neglected tropical diseases (**Enrolled under WB-DST project**).

14. **Debabrata Acharya** (At University of Kalyani, India) on development of machine learning methods for multi-omics data analysis (**Enrolled under Kalyani University research scholarship**).

15. **Subhankar Roy** (At University of Kalyani, India) on development of protein and RNA sequence compression algorithms **(Enrolled under Kalyani University)**.

16. **Arup Kumar Bhattacharjee** (At University of Kalyani, India) on development of facility location optimization algorithms **(Enrolled under Kalyani University)**.

Publication and Citation Summary

- Total publications - **205**
  - Books - **3**
  - Book chapters - **8**
  - Journals - **94**
  - Conferences - **100**
- Total citations - **5272** (Google Scholar), **3286** (Scopus).
- H-index - **39** (Google Scholar), **31** (Scopus).

List of Publications

Authored/Edited Book

1. U. Maulik, S. Bandyopadhyay and **A. Mukhopadhyay**, *"Multiobjective Genetic Algorithms for Clustering: Applications in Data Mining and Bioinformatics"*, Springer, Heidelberg-Berlin (ISBN 978-3-642-16614-3), 2011.

2. S. Chatterjee, T. P. Singh, S. Lim, **A. Mukhopadhyay** (editors), *"Social Media and Crowdsourcing: Application and Analytics"*. CRC Press (ISBN 978-1-032-38687-4), 2023.

3. **A. Mukhopadhyay**, S. Ray, Maulik, and S. Bandyopadhyay, *"Multiobjective Optimization Algorithms for Bioinformatics"*, Springer, Heidelberg-Berlin (ISBN 978-981-97-1630-2), 2024 (In Press).

Book Chapter

1. **A. Mukhopadhyay**, U. Biswas, M. K. Naskar, U. Maulik, and S. Bandyopadhyay, *"Minimization of Number of SADMs for Traffic Grooming in SONET/WDM Rings using Genetic Algorithm"*, Handbook of Bioinspired Algorithms and Applications, Chapter 14, pp. 209-218, Chapman and Hall/CRC, 2006.

2. **A. Mukhopadhyay** and U. Maulik and S. Bandyopadhyay, *"Multiobjective Evolutionary Approach to Fuzzy Clustering of Microarray Data"*, Analysis of Biological Data: A Soft Computing Approach, Vol. 3, Chapter 13, pp. 303-326, World Scientific, 2007.

3. **A. Mukhopadhyay** and U. Maulik and S. Bandyopadhyay, *"Identifying Potential Gene Markers using SVM Classifier Ensemble"*, Computational Intelligence and Pattern Analysis in Biological Informatics, Chapter 12, pp. 277-291, Wiley, 2010.

4. K. C. Mondal, **A. Mukhopadhyay**, U. Maulik, S. Bandhyapadhyay and N. Pasquier, *"MOSCFRA: A Multi-objective Genetic Approach for Simultaneous Clustering and Gene Ranking"*, Computational Intelligence Methods for Bioinformatics and Biostatistics, LNCS, Vol. 6685, pp. 174-187, Springer-Verlag, 2011.

5. **A. Mukhopadhyay** and S. Poddar, *"A Matlab GUI Package for Comparing Data Clustering Algorithms"*, Soft Computing Techniques in Engineering Applications, Studies in Computational Intelligence, Vol. 543, pp. 33-48, Springer-Verlag, 2014.

6. **A. Mukhopadhyay**, *"MRI Brain Image Segmentation Using Interactive Multiobjective Evolutionary Approach"*, Handbook of Research on Natural Computing for Optimization Problems, Chapter 2, pp. 10-29, IGI Global, 2016.

7. **A. Mukhopadhyay**, "*Incorporating Gene Ontology Information in Gene Expression Data Clustering Using Multiobjective Evolutionary Optimization: Application in Yeast Cell Cycle Data*", Multiobjective Optimization, Springer, pp. 55-78, Singapore, 2018.

8. S. Mallik, U. Maulik, N. Tomar, T. Bhadra, **A. Mukhopadhyay** and A. Mukherji, "*Machine Learning and Rule Mining Techniques in the Study of Gene Inactivation and RNA Interference*", In Modulating Gene Expression - Abridging the RNAi and CRISPR-Cas9 Technologies, Intechopen, Chapter 7, pp. 105-124, 2019.

Journal

1. U. Biswas, M. K. Naskar, **A. Mukhopadhyay** and U. Maulik, "*A Heuristic Algorithm for Static Wavelength Assignment in WDM Optical Networks*", IETE Technical Review, Vol. 22, No. 3, pp. 199-204, May-June 2004. [**SCIE, Scopus, Impact Factor: 1.932**]

2. U. Maulik, **A. Mukhopadhyay** and S. Bandyopadhyay, "*Efficient Clustering with Multi-class Point Identification*", Journal of Three Dimensional Images, Vol. 20, No. 1, pp. 35-40, Japan, 2006.

3. S. Bandyopadhyay, U. Maulik and **A. Mukhopadhyay**, "*Multiobjective Genetic Clustering for Pixel Classification in Remote Sensing Imagery*", IEEE Transactions on Geoscience and Remote Sensing, Vol. 45, No. 5, pp. 1506-1511, 2007. [**SCI, Scopus, Impact Factor: 8.125**]

4. S. Bandyopadhyay, **A. Mukhopadhyay** and U. Maulik, "*An Improved Algorithm for Clustering Gene Expression Data*", Bioinformatics, Vol. 23, No. 21, pp. 2859-2865, 2007. [**SCI, Impact Factor: 6.931**]

5. **A. Mukhopadhyay** and U. Maulik, "*Unsupervised Pixel Classification in Satellite Imagery: A Two-stage Fuzzy Clustering Approach*", Fundamenta Informaticae, Vol. 86, No. 4, pp. 411-428, 2008. [**SCIE, Impact Factor: 1.166**]

6. I. Saha and **A. Mukhopadhyay**, "*Improved Crisp and Fuzzy Clustering Techniques for Categorical Data*", IAENG International Journal of Computer Science, Vol. 35 Issue 4, pp. 438-450, 2008. [**Scopus, Impact Factor: 1.678**]

7. U. Biswas, U. Maulik, **A. Mukhopadhyay** and M. K. Naskar, "*Multiobjective Evolutionary Approach to Cost-effective Traffic Grooming in Unidirectional SONET/ WDM Rings*", Photonic Network Communications, Vol. 18, No. 1, pp. 105-115, 2009. [**Scopus, SCI, Impact Factor: 1.768**]

8. **A. Mukhopadhyay** and U Maulik, "*Unsupervised Pixel Classification in Satellite Imagery using Multiobjective Fuzzy Clustering combined with SVM Classifier*", IEEE Transactions on Geoscience and Remote Sensing, Vol. 47, No. 4, pp. 1132-1138, 2009. [**SCI, Scopus, Impact Factor: 8.125**]

9. **A. Mukhopadhyay**, U Maulik and S. Bandyopadhyay, "*Multi-objective Genetic Algorithm based Fuzzy Clustering of Categorical Attributes*", IEEE Transactions on Evolutionary Computation, Vol. 13, No. 5, pp. 991-1005, 2009. [**SCI, Scopus, Impact Factor: 16.497**]

10. U Maulik, **A. Mukhopadhyay** and S. Bandyopadhyay, "*Combining Pareto-Optimal Clusters using Supervised Learning for Identifying Co-expressed Genes*", BMC Bioinformatics, Vol. 10, No. 27, 2009. [**SCIE, Scopus, Impact Factor: 3.328**]

11. U. Maulik and **A. Mukhopadhyay**, "*Simulated Annealing based Automatic Fuzzy Clustering combined with ANN Classification for Analyzing Microarray Data*", Computers and Operations Research, Vol. 37, No. 8, pp. 1369-1380, 2009. [**SCI, Scopus, Impact Factor: 5.159**]

12. U. Maulik, **A. Mukhopadhyay** and S. Bandyopadhyay, "*Finding Multiple Coherent Biclusters in Microarray Data using Variable String Length Multiobjective Genetic Algorithm*", IEEE Transactions on Information Technology in Biomedicine, Vol. 13, No. 6, pp. 969-975, 2009. [**Scopus, Impact Factor: 2.493**]

13. **A. Mukhopadhyay** and U. Maulik, "*Towards Improving Fuzzy Clustering using Support Vector Machine: Application to Gene Expression Data*", Pattern Recognition, Vol. 42, No. 11, pp. 2744-2763, 2009. [**SCI, Scopus, Impact Factor: 8.518**]

14. **A. Mukhopadhyay**, U. Maulik and S. Bandyopadhyay, *"A Novel Coherence Measure for Discovering Scaling Biclusters from Gene Expression Data"*, Journal of Bioinformatics and Computational Biology, Vol. 7, No. 5, pp. 853-868, 2009. [**SCIE, Scopus, Impact Factor: 1.204**]

15. **A. Mukhopadhyay**, U. Maulik and S. Bandyopadhyay, *"On Biclustering of Gene Expression Data"*, Current Bioinformatics, Vol. 5, No. 3, pp. 204-216, 2010. [**SCIE, Scopus, Impact Factor: 4.850**]

16. U. Biswas, **A. Mukhopadhyay**, U. Maulik and M. K. Naskar, *"Lightpath Protection using Genetic Algorithm through Topology Mapping in WDM Optical Networks"*, Journal of Optics, Vol. 39, No. 1, pp. 32-38, 2010. [**Scopus**]

17. U. Biswas, **A. Mukhopadhyay**, U. Maulik and M. K. Naskar, *"Multiobjective Genetic Algorithm based Approach to Traffic Grooming in Unidirectional SONET/WDM Rings"*, Journal of Optics, Vol. 39, No. 3, pp. 136-142, 2010. [**Scopus**]

18. **A. Mukhopadhyay**, S. Bandyopadhyay and U. Maulik, *"Multi-class Clustering of Cancer Subtypes through SVM based Ensemble of Pareto-optimal Solutions for Gene Marker Identification"*, PLOS ONE, Vol. 5, No. 11, 2010. [**SCIE, Scopus, Impact Factor: 3.752**]

19. D.Chakraborti, P. Biswas, **A. Mukhopadhyay**, *"A Genetic Algorithm based Fuzzy Goal Programming to Multiobjective Optimal Planning of Electric Power Generation Dispatch"*, International journal of Computational Intelligence Research, Vol. 6, No. 4, pp. 929-937, 2010.

20. **A. Mukhopadhyay** and U. Maulik, *"A Multiobjective Approach to MR Brain Image Segmentation"*, Applied Soft Computing, Vol. 11, No. 1, pp. 872-880, 2011. [**SCIE, Scopus, Impact Factor: 8.263**]

21. B. B. Pal, D. Chakraborti, P. Biswas, **A. Mukhopadhyay**, *"A Genetic Algorithm Based Mixed 0-1 Goal Programming Approach to Interval-valued multiobjective Bilevel Programming Problem"*, International Journal of Fuzzy systems and Rough systems, Vol. 4, No. 1, pp. 71-78, 2011.

22. U. Maulik, M. Bhattacharyya, **A. Mukhopadhyay** and S. Bandyopadhyay, *"Identifying the Immunodeficiency Gateway Proteins in Human and their Involvement in MicroRNA Regulation"*, Molecular BioSystems, Royal Society of Chemistry, Vol. 7, No. 6, pp. 1842-1851, 2011. [**SCIE, Scopus, Impact Factor: 4.212**]

23. L. Dey and **A. Mukhopadhyay**, *"Microarray Gene Expression Data Clustering using PSO based K-means Algorithm"*, International Journal of Computer Science and its Applications, Vol. 1, No. 1, pp. 232-236, 2011. [**Scopus**]

24. B. B. Pal, D. Chakraborti, P. Biswas and **A. Mukhopadhyay**, *"An application of genetic algorithm method for solving patrol manpower deployment problems through fuzzy goal programming in traffic management system: A case study"*, International Journal of Bio-Inspired Computation, Vol. 4, No. 1, pp. 47-60, 2012. [**SCIE, Scopus, Impact Factor: 3.295**]

25. **A. Mukhopadhyay**, U. Maulik and S. Bandyopadhyay, *"A Novel Biclustering Approach to Association Rule Mining for Predicting HIV-1–Human Protein Interactions"*, PLOS ONE, Vol. 7, No. 4, 2012. [**SCIE, Scopus, Impact Factor: 3.752**]

26. **A. Mukhopadhyay**, U. Maulik and S. Bandyopadhyay, *"Gene Expression Data Analysis using Multiobjective Clustering Improved with SVM based Ensemble"*, In Silico Biology, Vol. 11, No. 1-2, pp. 19-27, 2012. [**Scopus**]

27. **A. Mukhopadhyay**, S. Ray and M. De, *"Detecting Protein Complexes in PPI Network: A Gene Ontology-based Multiobjective Evolutionary Approach"*, Molecular BioSystems, Royal Society of Chemistry, Vol. 8, No. 11, pp. 3036-3048, 2012. [**SCIE, Scopus, Impact Factor: 4.212**]

28. **A. Mukhopadhyay**, U. Maulik and S. Bandyopadhyay, *"An Interactive Approach to Multiobjective Clustering of Gene Expression Patterns"*, IEEE Transactions on Biomedical Engineering, Vol. 60, No. 1, pp. 35-41, 2012. [**SCIE, Scopus, Impact Factor: 4.756**]

29. U. Maulik, **A. Mukhopadhyay**, and D. Chakraborty, *"Gene-expression Based Cancer Subtypes Prediction through Feature Selection and Transductive SVM"*, IEEE Transactions on Biomedical Engineering, Vol. 60, No. 4, pp. 1111-1117, 2013. [**SCIE, Scopus, Impact Factor: 4.756**]

30. U. Maulik, **A. Mukhopadhyay**, M. Bhattacharyya, L. Kaderali, B. Brors, S. Bandyopadhyay, and R. Eils, "*Mining Quasi-Bicliques from HIV-1–Human Protein Interaction Network: A Multiobjective Biclustering Approach*", IEEE/ACM Transactions on Computational Biology and Bioinformatics, Vol. 10, No. 2, pp. 423-435, 2013. [**SCIE, Scopus, Impact Factor: 3.702**]

31. A. Bhar, M. Haubrock, **A. Mukhopadhyay**, U. Maulik, S. Bandyopadhyay, and E. Wingender, "*Coexpression and Coregulation Analysis of Time-Series Gene Expression Data in Estrogen-Induced Breast Cancer Cell*", Algorithms for Molecular Biology, Vol. 8, No. 9, 2013. [**SCIE, Scopus, Impact Factor: 1.721**]

32. **A. Mukhopadhyay** and U. Maulik, "*An SVM-wrapped Multiobjective Evolutionary Feature Selection Approach for Identifying Cancer-MicroRNA Markers*", IEEE Transactions on NanoBioScience, Vol. 12, No. 4, pp. 275-281, 2013. [**SCIE, Scopu, Impact Factor: 3.206**]

33. P. Biswas, B. B. Pal, **A. Mukhopadhyay** and D. Chakraborti, "*Genetic Algorithm based Goal Programming Procedure for Solving Interval-Valued Multilevel Programming Problems*", International Journal of Advanced Computer Research, Vol. 3, No. 1(8), pp. 125-135, 2013.

34. S. Mallik, **A. Mukhopadhyay** and U. Maulik, "*Integrated Statistical and Rule-Mining Techniques for DNA Methylation and Gene Expression Data Analysis*", Journal of Artificial Intelligence and Soft Computing Research, Vol. 3, No. 2, 2013. [**SCIE, Scopus**]

35. B. Barman and **A. Mukhopadhyay**, "*Neural Network-based Approaches for Modeling Metabolic Pathways through Construction of Gene Regulatory Network from Time Series Gene Expression Data*", CSI Journal of Computing, Vol. 2, No. 1, pp. 90-97, 2013.

36. B. B. Pal, **A. Mukhopadhyay**, P. Biswas and S. Mukerjee, "*A Priority based Fuzzy Goal Programming Method for Solving Thermal Power Generation-Dispatch Problems using Genetic Algorithm*", CSI Journal of Computing, Vol. 2, No. 1, pp. 47-56, 2013.

37. **A. Mukhopadhyay**, U. Maulik, S. Bandyopadhyay and C. A. Coello Coello, "*A Survey of Multi-Objective Evolutionary Algorithms for Data Mining: Part-I*", IEEE Transactions on Evolutionary Computation, Vol. 18, No. 1, pp. 4-19, 2014. [**SCI, Scopus, Impact Factor: 16.497**]

38. **A. Mukhopadhyay**, U. Maulik, S. Bandyopadhyay and C. A. Coello Coello, "*Survey of Multi-Objective Evolutionary Algorithms for Data Mining: Part-II*", IEEE Transactions on Evolutionary Computation, Vol. 18, No. 1, pp. 20-35, 2014. [**SCI, Scopus, Impact Factor: 16.497**]

39. S. Bandyopadhyay, S. Mallik and **A. Mukhopadhyay**, "*A Survey and Comparative Study of Statistical Tests for Identifying Differential Expression from Microarray Data*", IEEE/ACM Transactions on Computational Biology and Bioinformatics, Vol. 11, No. 1, pp. 95-115, 2014. [**SCIE, Scopus, Impact Factor: 3.702**]

40. **A. Mukhopadhyay**, S. Ray and U. Maulik, "*Incorporating the type and direction information in predicting novel regulatory interactions between HIV-1 and human proteins using a biclustering approach*", BMC Bioinformatics, Vol. 15, No. 26, 2014. [**SCIE, Scopus, Impact Factor: 3.328**]

41. M. Mandal and **A. Mukhopadhyay**, "*A Graph-Theoretic Approach for Identifying Non-redundant and Relevant Gene Markers from Microarray Data Using Multiobjective Binary PSO*", PLOS ONE, Vol. 9, No. 3, 2014. [**SCIE, Scopus, Impact Factor: 3.752**]

42. **A. Mukhopadhyay** and U. Maulik, "*Network-based Study Reveals Potential Infection Pathways of Hepatitis-C Leading to Various Diseases*", PLoS ONE, Vol. 9, No. 4, 2014. [**SCIE, Scopus, Impact Factor: 3.752**]

43. **A. Mukhopadhyay** and M. Mandal, "*Identifying Non-redundant Gene Markers from Microarray Data: A Multiobjective Variable Length PSO-based Approach*", IEEE/ACM Transactions on Computational Biology and Bioinformatics, Vol. 11, No. 6, pp. 1170-1183, 2014. [**SCIE, Scopus, Impact Factor: 3.702**]

44. **A. Mukhopadhyay**, "*Algorithms for Mining Protein-Protein Interaction Networks*", Annals of Indian National Academy of Engineering (INAE), Vol. XII, pp. 249-256, April 2014.

45. S. Bandyopadhyay, S. Ray, **A. Mukhopadhyay** and U. Maulik, "*A Review of In Silico Approaches for Analysis and Prediction of HIV-1-Human Protein-Protein Interactions*", Briefings in Bioinformatics, Vol. 16, No. 5, pp. 830-851, doi: 10.1093/bib/bbu041, 2015. [**SCIE, Scopus, Impact Factor: 13.994**]

46. M. Mandal and **A. Mukhopadhyay**, "*A Novel PSO-based Graph-Theoretic Approach for Identifying Most Relevant and Non-redundant Gene Markers from Gene Expression Data*", International Journal of Parallel, Emergent and Distributed Systems, Vol. 30, No. 3, pp. 175-192, 2015. [**Scopus**]

47. S. Mallik, **A. Mukhopadhyay** and U. Maulik, "*RANWAR: Rank-Based Weighted Association Rule Mining from Gene Expression and Methylation Data*", IEEE Transactions on NanoBioscience, Vol. 14, No. 1, pp. 58-65, 2015. [**SCIE, Scopus, Impact Factor: 3.206**]

48. M. Mandal, **A. Mukhopadhyay** and U. Maulik, "*Prediction of protein subcellular localization by incorporating multiobjective PSO-based feature subset selection into the general form of Chou's PseAAC*", Medical & Biological Engineering & Computing, Vol. 53, No. 4, pp. 331-344, 2015. [**SCI, Scopus, Impact Factor: 3.097**]

49. U. Maulik, S. Mallik, **A. Mukhopadhyay** and S. Bandyopadhyay, "*Analyzing Large Gene Expression and Methylation Data Pro.files using StatBicRM: Statistical Biclustering-based Rule Mining*", PLoS ONE, Vol. 10, No. 4, pid: e0119448, 2015. [**SCIE, Scopus, Impact Factor: 3.752**]

50. **A. Mukhopadhyay**, U. Maulik and S. Bandyopadhyay, "*A Survey of Multiobjective Evolutionary Clustering*", ACM Computing Surveys, Vol. 47, No. 4, pp. 61:1-61:46, 2015. [**SCI, Scopus, Impact Factor: 14.324**]

51. M. Mandal and **A. Mukhopadhyay**, "*A Comparative Study Among Various Statistical Tests Using Microarray Gene Expression Data*", Current Bioinformatics, Vol. 10, No. 4, pp. 377-392, 2015. [**SCIE, Scopus, Impact Factor: 4.850**]

52. M. Mandal, J. Mondal and **A. Mukhopadhyay**, "*A PSO-based Approach for Pathway Marker Identification from Gene Expression Data*", IEEE Transactions of NanoBioscience, Vol. 14, No. 6, pp. 591-597, 2015. [**SCIE, Scopus, Impact Factor: 3.206**]

53. A. Bhar, M. Haubrock, **A. Mukhopadhyay** and E. Wingender, "*Multiobjective Triclustering of Time-Series Transcriptome Data Reveals Key Genes of Biological Processes*", BMC Bioinformatics, Vol. 16, 2015. [**Scopus, SCIE, Impact Factor: 3.242**]

54. S. Bandyopadhyay, S. Ray, **A. Mukhopadhyay** and U. Maulik, "*A Multiobjective Approach for Identifying Protein Complexes and Studying their Association in Multiple Disorders*", Algorithms for Molecular Biology, Vol. 10, No. 24, 2015. [**SCIE, Scopus, Impact Factor: 1.721**]

55. B. Barman, P. Biswas and **A. Mukhopadhyay**, "*Comparison of gene regulatory networks using adaptive neural network and self-organising map approach over Huh7 hepatoma cell microarray data matrix*", International Journal of Bio-Inspired Computation, Vol. 8, No. 4, 240-247, 2016 [**SCIE, Scopus, Impact Factor: 3.295**]

56. B. Barman, R. Kanjilal and **A. Mukhopadhyay**, "*Neuro-Fuzzy Controller Design to Navigate Unmanned Vehicle with Construction of Traffic Rules to Avoid Obstacles*", International Journal of Uncertainty, Fuzziness and Knowledge-Based Systems, Vol. 24, No. 3, pp. 433-449, 2016 [**Scopus, SCIE, Impact Factor: 1.027**].

57. B. Barman and **A. Mukhopadhyay**, "*Polynomial equation models for yeast cell-cycle time series microarray data by analysing fidelity matrices of gene expression values* ", International Journal of Bioinformatics Research and Applications, Vol. 12, No. 3, pp. 194-210, 2016 [**Scopus**].

58. M. Mandal and **A. Mukhopadhyay**, "*Multiobjective PSO-based rank aggregation: Application in gene ranking from microarray data*", Information Sciences, Vol. 385-386, pp. 55-75, 2017. [**Scopus, SCI, Impact Factor: 8.233**]

59. S. Chatterjee, **A. Mukhopadhyay** and M. Bhattacharyya, "*Dependent Judgment Analysis: A Markov Chain based Approach for Aggregating Crowdsourced Opinions*", Information Sciences, Vol. 396, pp. 83-96, 2017. [**Scopus, SCI, Impact Factor: 8.233**]

60. Sk Md M. Hossain, S. Ray and **A. Mukhopadhyay**, "*Preservation affinity in consensus modules among stages of HIV-1 progression*", BMC Bioinformatics, Vol. 18, No. 181, 2017. [**Scopus, SCIE, Impact Factor: 3.328**]

61. R. K. Barman, **A. Mukhopadhyay** and S. Das, "*An improved method for identification of small non-coding RNAs in bacteria using support vector machine*", Scientific Reports, Vol. 7, No. 46070, Nature Partner Journals (NPJ), doi: 10.1038/srep46070, 2017. [**Scopus, SCIE, Impact Factor: 3.998**]

62. L. Dey and **A. Mukhopadhyay**, "*DenvInt: A Database of Protein-protein Interactions between Dengue Virus and its Hosts*", PLOS Neglected Tropical Diseases, Vol. 11, No. 10, https://doi.org/10.1371/journal.pntd.0005879, 2017. [**Scopus, SCIE, Impact Factor: 4.781**]

63. S. Chatterjee **A. Mukhopadhyay** and M. Bhattacharyya, "*Constrained Crowd Judgment Analysis*", ACM SIGWEB Newsletter, Autumn, pp. 4:1-4:3, 2017.

64. S. Ray, Sk Md M. Hossain, L. Khatun and **A. Mukhopadhyay**, "*A comprehensive analysis on preservation patterns of gene co-expression networks during Alzheimer's disease progression*", BMC Bioinformatics, Vol. 18, No. 1, pp. 579:1-579:21, 2017. [**Scopus, SCIE, Impact Factor: 3.328**].

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