

Dr. Saykat Dutta



PERSONAL STATEMENT

Extremely organized, detailed, accurate research professional adept in prioritizing work with the ability to manage multiple tasking simultaneously. With more than 5 years of research experience in evolutionary computing relating to multi/many-objective optimization. Motivated and consistent in organizational capabilities facilitating streamlined administrative and academic operations.

ACADEMIC QUALIFICATIONS

2016–2022	Ph.D. in Mathematics <i>National Institute of Technology Silchar, Assam</i> Thesis titled: “Design of Efficient Evolutionary Approaches for Multi/Many-Objective Optimization Problems with Novel Mating/Environmental Selection Strategies and Its Application”
2014–2016	M.Sc. in Mathematics <i>National Institute of Technology Silchar, Assam</i> C.P.I.: 8.78/10
2011–2014	B.Sc. Honours in Mathematics <i>Santipur College, University of Kalyani, West Bengal</i> Percentage: 57.8%
2009–2011	West Bengal Council of Higher Secondary Education (12th) <i>Ranaghat Lal Gopal High School, West Bengal</i> Percentage: 76.2%
2009	West Bengal Board of Secondary Education (10th) <i>Ranaghat Bharati High School, West Bengal</i> Percentage: 75.8%

WORK EXPERIENCES

Post-Doc Fellow Institute of Statistical Science <i>Academia Sinica, Taiwan</i>	April 2023 – Present
Assistant Professor Department of Mathematics <i>Brainware University, West Bengal</i>	April 2022 – Jan 2023
Teaching Assistant Department of Mathematics <i>National Institute of Technology Silchar, Assam</i>	July 2014–May 2016, Jan 2017 – Present

ACTIVITIES

Served as a DPMC student member in Department of Mathematics, NIT Silchar, 2019-2021.

AREA OF INTERESTS

Research Interests

- Evolutionary Algorithms
- Multi-objective Optimization
- Soft Computing

Teaching Interests

- Programming (C / C++ / MatLab)
- Linear Algebra
- Optimization
- Soft Computing
- Operation Research
- Probability Theory

PROJECTS/ INTERNSHIP

Projects

The project titled *A New Method for Solving Generalized Intuitionistic Fuzzy Linear Programming Problem* was pursued during M.Sc. fourth semester (Jan-Dec, 2016) in NIT Silchar.

Internship

The project titled *Optimization of Coal Handling Cost in a Thermal Power Plant* was pursued during M.Sc. summer vacation (May-July, 2015) in ISI Kolkata.

MEMBERSHIP OF PROFESSIONAL BODIES

- IEEE Student Membership **Membership No.:** 93874685

TECHNICAL SKILLS

Programming Languages: Fortran, C, C++, Python, MatLab

Tools & IDE: LATEX, Spyder, MS Office

Platforms: Windows, Linux (Ubuntu), Mac OS X

PUBLICATIONS

Journals (International)

1. [SCI] [IF: 8.263] Dutta, S., Raju, MSS., Mallipeddi, R., Das, K. N., 2023. Adaptive Mating Selection based on Weighted Indicator for Multi/Many-objective Evolutionary Algorithm, *Applied Soft Computing*.
2. [SCI] [IF: 8.233] Raju, MSS., Dutta, S., Mallipeddi, R., Das, K. N., 2022. A Dual-Population and Multi-Stage based Constrained Multi-Objective Evolutionary Algorithm, *Information Science*.
3. [SCI] [IF: 4.379] Dutta, S., Mallipeddi, R., Das, K. N., 2022. Hybrid Selection Based Multi/Many-Objective Evolutionary Algorithm. *Scientific Reports*.
4. [SCOPUS] Mohapatra, P., Roy S., Das, K. N., Dutta, S., Raju, MSS., 2022. A review of evolutionary algorithms in solving large scale benchmark optimisation problems. *International Journal of Mathematics in Operational Research*.
5. [SCOPUS] [Book Chapter] Raju, M.S.S., Das, K. N., Dutta, S., 2022. A Multi-objective Evolutionary Algorithm with Clustering-Based Two-Round Selection Strategy. *Smart Innovation, Systems and Technologies*.
6. [SCI] [IF: 2.757] Das, K. N., Dutta, S., Raju, M.S.S., 2022. A robust environmental selection strategy in decomposition based many-objective optimization. *Multimedia Tools and Applications*.
7. [SCI] [IF: 2.258] Dutta, S., Mallipeddi, R., Das, K. N. and Lee, D.G., 2021. A Mating Selection Based on Modified Strengthened Dominance Relation for NSGA-III. *Mathematics*, 9(22), p.2837.
8. [SCI] [IF: 3.643] Saha, S., Maity, S.R., Dey, S., Dutta, S., 2021. Modeling and combined application of MOEA/D and TOPSIS to optimize WEDM performances of A286 superalloy. *Soft Computing* 25, p. 14697–14713.
9. [SCOPUS] [Book Chapter] Dutta, S. and Das, K. N., 2019. A survey on Pareto-based eas to solve multi-objective optimization problems. *Soft Computing for Problem Solving*, p.807-820.

Under Review

10. Raju, MSS., Dutta, S., Mallipeddi, R., Das, K. N., 2023. A Constrained Multi-Objective Evolutionary Algorithm with Clustering based Weight Vector Adaptation.
11. Raju, MSS., Dutta, S., Mallipeddi, R., Das, K. N., 2023. Optimal placement of fixed hub height wind turbines in a wind farm using twin archive guided decomposition based multi/many-objective evolutionary algorithm.

No. Of PUBLICATIONS

SCI: 6

SCOPUS: 1

BOOK CHAPTER: 2

AWARD / ACHIEVEMENTS

- Best paper award for presenting a paper *A survey on Pareto-based eas to solve multi-objective optimization problems* in 7th International Conference on Soft Computing For Problem Solving, SocProS 2017, IIT Bhubaneswar, India.

PRESENTATION IN CONFERENCE / RESEARCH CONVENTIONS

1. A Modified Strengthened Dominance Relation for NSGAD, 27th International Conference of International Academy of Physical Sciences, NIT Silchar, CONIAPS XXVII 2021.
2. Poster Presentation in Anveshan 2.0, Student Research Convention, NIT Silchar, 2020.
3. Many Objective Optimization: A Computational approach, Research Scholar Day, NIT Silchar, 2020.
4. A survey on Pareto-based eas to solve multi-objective optimization problems, 7th International Conference on Soft Computing For Problem Solving, IIT Bhubaneswar, SocProS 2017.

PARTICIPATION IN WORKSHOPS

1. 2nd Research Scholar's Day, International Day of Mathematics, NIT Silchar, March 2021.
2. Recent Trends on Optimization in Science & Engineering, NIT Silchar, Aug 2018.
3. Recent Advances in Fuzzy Optimization, NIT Silchar, May 2018.
4. Advances in Stability Analysis on Dynamical Systems, NIT Silchar, March 2017.
5. Recent Trends on Optimization Techniques in Science and Engineering, NIT Silchar, March 2017.
6. Recent Advances in Applied Mathematics, NIT Silchar, Feb 2017.
7. Applications of optimization Techniques in Engineering and Technology, NIT Silchar, Feb 2017.
8. Advances in Applications of Computational Fluid Dynamics, NIT Silchar, November 2016.
9. Mathematical Methods in Physical Sciences, NIT Silchar & ISI Kolkata, January 2016.
10. Reliability Theory and its Applications to Real Life Problems, NIT Silchar & ISI Kolkata, 2015.

URL FOR RESEARCH AND PERSONAL DETAILS

Google Scholar <https://scholar.google.com/citations?hl=en&user=gBTuq0WTNGEC>

Orcid <https://orcid.org/0000-0002-0691-7237>

Research Gate <https://www.researchgate.net/profile/Saykat-Dutta>

Publons <https://publons.com/researcher/4806524/saykat-dutta/>

RECENT & FUTURE PLAN

- **Continuing the Research** in solving of Multi-Modal Problems, Constrained Problems and Large-Scale Problems on multi-objective scenario.
 - **Efficiently** applying the covariance matrix adaptation based evolutionary strategies in multi/ many-objective large scale algorithms.
 - **Preparing** a project for Start-up Research Grant (SRG) on Evolutionary Computation.
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