

Dr. SANTOSH KUMAR MAJHI

Associate Professor
Department of Computer Sc. & Information Technology
Guru Ghasidas Vishwavidyalaya (Central University)
Koni, Bilaspur, (C.G.), India, 495009
Contact: (91) - 9438403651
Email: smajhi.csit@gmail.com; smajhi.csit@ggu.ac.in; smajhi_cse@ieee.org

Profile at a Glance

- An expert professional **having around 15 years of experience** in Software Development, teaching and research.
- 4 Years in Oracle, PL/SQL (Both in UNIX & Windows Platform), Oracle Application R12 implementation, customization and system design development.
- Experience in conducting and guiding research activities in Cloud Computing, AI and Machine Learning domain.
- Experience in Data Science and Analytics research

Certification

- Oracle E-Business Suite R12 Human Capital Management Certified Professional
- NASSCOM- Data Science and Analytics Trainer Licensed Certification

Subject

- Data Science and Analytics
- Data Mining
- Computer programming using C
- Database Engineering
- Programming using Python
- Artificial Intelligence
- Algorithms
- Operating System

Technical Skills

Languages	PL/SQL, SQL, Unix Shell Scripts, Python, MATLAB
Databases	Oracle 10g, 9i, 8i,MySql
Operating Systems	Windows 9X / XP / 2000, Unix, MAC
Oracle Development Tools	Oracle Reports 10g, Oracle WF, Oracle Approval Management, XML/BI Publisher
Reporting Tools	Oracle Report 6i
Tools & Utilities	Toad 7.0, Pl Sql Developer, MATLAB, WEKA

Research Project/Consultancy

Sl.	Name of the Project	Name of the Institute where carried out	Status	Sponsoring Agency	Name of Coinvestigat or, if any	Amount sanctioned & sanctioned letters No & Date	Amount Utilized
1	Design of health care management system for chronic diseases in rural Odisha	VSSUT, Burla	Completed	AICTE	NIL	Rs. 7.12 lakhs Sanction Order No. 8- 83/FDC/RPS(POLICY1)/2019-20 Duration: 3 years	Rs. 7.12 Lakhs
2	Functional Verification of Live Migration in Openstack Cloud	VSSUT, Burla	Completed	TEQIP-II, VSSUT, Burla	NIL	No. VSSUT/TEQIP/49/ 2016 DT. 28/03/2016	Rs. 75,000/-

Professional Experience

VSS UNIVERSITY OF TECHNOLOGY (18th MAY 2015 –9th NOV 2023)

- Teaching
- Research

Education

Education	Board/University	School/College	%age/CGPA
PhD (Computer and Information Systems)	Sri Sri University, Odisha, India	-	Awarded
M.E.(CSE)	Utkal University, Orissa, India	PG. Dept. of Computer Science and Application	79.83
B. Tech(CSE)	VSSUT,Odisha, India	VSSUT(UCE),Burla	8.36

*UGC NET – JRF (in Computer Science and Application) qualified in 2013

Research Area/Interest

Machine Learning, Data Science, Cloud Security Analytics, Cloud Computing, Cyber Physical Systems

Awards & Honors

- Young IT Professional Award (Region IV), CSI, 2016
- Best Faculty Award by VSSUT Burla, 2023.
- Young Scientist Award in Engineering/Cloud Computing, VIFRA, Chennai, INDIA, 2015 (<http://www.venusinfo.org/ra15/Santosh.html>)
- Microsoft Research Grant Award (To attend ACM CCS), 2015
- UGC NET Junior Research Fellowship, 2012
- 2nd Prize National Level Seminar, Dept. of ETC, VSSUT, Burla, 2011 (Talk: Beyond 5g Mobile Communication)
- Oracle Certified HCM Implementation Specialist, Oracle University, 2011
- Lifetime Contribution Award by dramatic society, VSSUT, Burla, 2010
- Merit Scholarship, Orissa Talent Scholarship Examination, 2002

Member of Professional Bodies

- Life Member ISTE
- Senior IEEE Member (#90668006)

Publications

- Acharya, B., Panda, S., Das, S., **Majhi, S. K.**, Gerogiannis, V. C., & Kanavos, A. (2025). Optimizing task scheduling in cloud environments: a hybrid golden search whale optimization algorithm approach. *Neural Computing and Applications*, 1-23.
- Rajareddy, G. N., Mishra, K., **Majhi, S. K.**, Sahoo, K. S., & Bilal, M. (2025). M-SOS: Mobility-Aware Secured Offloading and Scheduling in Dew-Enabled Vehicular Fog of Things. *IEEE Transactions on Intelligent Transportation Systems*.
- Mahapatra, A., Pradhan, R., **Majhi, S. K.**, & Mishra, K. (2024). Quantum ML-Based Cooperative Task Orchestration in Dew-Assisted IoT Framework. *Arabian Journal for Science and Engineering*, 1-28.
- Mishra, Kaushik, **Santosh Kumar Majhi**, Kshira Sagar Sahoo, Sourav Kumar Bhoi, Monowar Bhuyan, and Amir H. Gandomi. "Collaborative Cloud Resource Management and Task Consolidation Using JAYA Variants." *IEEE Transactions on Network and Service Management* (2024), DOI: [10.1109/TNSM.2024.3443285](https://doi.org/10.1109/TNSM.2024.3443285).
- Tripathy, S.K., **Majhi, S.K.**, Pradhan, R., Panda, S. (2024). Comparative Analysis of Deep Machine Learning Models for Identification of Glaucoma from Fundus Images. In: *Applied Soft Computing and Communication Networks. ACN 2023. Lecture Notes in Networks and Systems*, vol 966. Springer, Singapore. https://doi.org/10.1007/978-981-97-2004-0_36
- Srichandan, S.K., **Majhi, S.K.**, Jena, S. et al. Efficient latency-and-energy-aware IoT-fog-cloud task orchestration: novel algorithmic approach with enhanced arithmetic optimization and pattern search. *Int. j. inf. tecnol.* **16**, 3311–3324 (2024). <https://doi.org/10.1007/s41870-024-01807-z>
- Paul, Santosh Kumar, Sunil Kumar Dhal, **Santosh Kumar Majhi**, Abhijeet Mahapatra, Pradosh Kumar Gantayat, and Swarupa Panda. "Optimizing Task Scheduling and Resource Utilization in Cloud environment: A novel approach combining Pattern Search with Artificial Rabbit Optimization." *IEEE Access* (2024), Vol 12, pp. 67130 – 67148, DOI: [10.1109/ACCESS.2024.3397696](https://doi.org/10.1109/ACCESS.2024.3397696).
- Srichandan, Suresh Kumar, **Santosh Kumar Majhi**, Sudarson Jena, Kaushik Mishra, and Radhakrishna Bhat. "A Secure and Distributed Placement for Quality of Service-Aware IoT Requests in Fog-Cloud of Things: A Novel Joint Algorithmic Approach." *IEEE Access* (2024), Vol 12, pp. 56730 – 56748, DOI: [10.1109/ACCESS.2024.3390723](https://doi.org/10.1109/ACCESS.2024.3390723).
- Mahapatra, A., Mishra, K., Pradhan, R. & **S K Majhi**, Next Generation Task Offloading Techniques in Evolving Computing Paradigms: Comparative Analysis, Current Challenges, and Future Research Perspectives. *Arch Computat Methods Eng* **31**, 1405–1474 (2024). <https://doi.org/10.1007/s11831-023-10021-2>.
- Pattanaik, Sudeshna, Chinmay Chakraborty, Subhasikta Behera, **Santosh Kumar Majhi**, and Subhendu Kumar Pani. "A MIoT Framework of Consumer Technology for Medical Diseases Prediction." *IEEE Transactions on Consumer Electronics* (2024), Vol 70, Issue 1, pp. 3754 – 3761, DOI: [10.1109/TCE.2024.3377922](https://doi.org/10.1109/TCE.2024.3377922).

11. Krishna, M.M., **Majhi, S.K.** & Panda, N. Hybrid Arithmetic-Rider Optimization algorithm as new intelligent model for travelling salesman problem. *Int. j. inf. tecnol.* (2024). <https://doi.org/10.1007/s41870-024-01726-z>
12. Mahapatra, Abhijeet, **Santosh K. Majhi**, Kaushik Mishra, Rosy Pradhan, D. Chandrasekhar Rao, and Sandeep K. Panda. "An energy-aware task offloading and load balancing for latency-sensitive IoT applications in the Fog-Cloud continuum." *IEEE Access* (2024), Vol 12, pp. 14334 – 14349, [10.1109/ACCESS.2024.3357122](https://doi.org/10.1109/ACCESS.2024.3357122)
13. BV Ramana, Nibedan Panda, S Teja, Hitesh Mohapatra, AK Dalai, **SK Majhi**, "Improved Chaotic Grey Wolf Optimization for Training Neural Networks", *Journal of Scientific & Industrial Research*, Vol. 82, November 2023, pp. 1193-1207 DOI: 10.56042/jsir.v82i11.5322.
14. **Santosh Kumar Majhi**, Abhipsa Panda, Suresh Kumar Srichandan, Usha Desai & Biswaranjan Acharya (2023) Malware image classification: comparative analysis of a fine-tuned CNN and pre-trained models, *International Journal of Computers and Applications*, 45:11, 709-721, DOI: 10.1080/1206212X.2023.2270804.
15. A Mohapatra, K Mishra, **S K Majhi**, R Pradhan, "Blockchain in Evolving Computing Paradigms: A Review and Future Directions", *R10 HTC 2023*, [10.1109/R10-HTC57504.2023.10461800](https://doi.org/10.1109/R10-HTC57504.2023.10461800).
16. Krishna, M.M., **Majhi, S.K.** & Panda, N. A MapReduce hybridized spotted hyena optimizer algorithm for travelling salesman problem. *Int. j. inf. tecnol.* **15**, 3873–3887 (2023). <https://doi.org/10.1007/s41870-023-01454-w>.
17. Mishra, K., **Majhi, S.K.** A novel improved hybrid optimization algorithm for efficient dynamic medical data scheduling in cloud-based systems for biomedical applications. *Multimed Tools Appl* 82, 27087–27121 (2023). <https://doi.org/10.1007/s11042-023-14448-4>
18. Pattanaik, S., Behera, S., **Majhi, S. K.**, & Dwibedy, P. K. (2022, July). Stacked BiLSTM with ResNet50 for Medical Image Classification. In *2022 IEEE Region 10 Symposium (TENSYP)* (pp. 1-6). IEEE, DOI: [10.1109/TENSYP54529.2022.9864353](https://doi.org/10.1109/TENSYP54529.2022.9864353).
19. Mahapatra, A., Mishra, K., **Majhi, S. K.**, & Pradhan, R. (2022, July). EFog-IoT: Harnessing Power Consumption in Fog-Assisted of Things. In *2022 IEEE Region 10 Symposium (TENSYP)* (pp. 1-6). IEEE, DOI: [10.1109/TENSYP54529.2022.9864457](https://doi.org/10.1109/TENSYP54529.2022.9864457).
20. Pattanaik, S., Behera, S., Dwibedy, P. K., **Majhi, S. K.**, & Pradhan, R. (2022, May). AdaRes: ResNet50 with AdaSwarm for Glaucoma Classification & Detection. In *2022 3rd International Conference for Emerging Technology (INCET)* (pp. 1-5). IEEE, DOI: [10.1109/INCET54531.2022.9825121](https://doi.org/10.1109/INCET54531.2022.9825121).
21. Mahapatra, A., Mishra, K., **Majhi, S. K.**, & Pradhan, R. (2022, May). Latency-aware Internet of Things Scheduling in Heterogeneous Fog-Cloud Paradigm. In *2022 3rd International Conference for Emerging Technology (INCET)* (pp. 1-7). IEEE, DOI: [10.1109/INCET54531.2022.9824613](https://doi.org/10.1109/INCET54531.2022.9824613).
22. Mishra, K., & **Majhi, S. K.** (2022). Design of Intelligent Scheduling Algorithms for Cloud Computing. In *Intelligent Technologies: Concepts, Applications, and Future Directions* (pp. 149-175). Singapore: Springer Nature Singapore, https://doi.org/10.1007/978-981-19-1021-0_7.
23. Panda, N., & **Majhi, S. K.** (2022). Design and Applications of Improved Metaheuristic Algorithms for Neural Network Training. In *Intelligent Technologies: Concepts, Applications, and Future Directions* (pp. 223-255). Singapore: Springer Nature Singapore, https://doi.org/10.1007/978-981-19-1021-0_10.
24. Chakraborty, C., Mishra, K., **Majhi, S. K.**, & Bhuyan, H. K. (2022). Intelligent Latency-aware tasks prioritization and offloading strategy in Distributed Fog-Cloud of Things. *IEEE Transactions on Industrial Informatics*, 19(2), 2099-2106, DOI: [10.1109/TII.2022.3173899](https://doi.org/10.1109/TII.2022.3173899).
25. Panda, N., **Majhi, S.K.** & Pradhan, R. A Hybrid Approach of Spotted Hyena Optimization Integrated with Quadratic Approximation for Training Wavelet Neural Network. *Arab J Sci Eng* 47, 10347–10363 (2022). <https://doi.org/10.1007/s13369-022-06564-4>.
26. Krishna, M. M., Panda, N., & **Majhi, S. K.** (2021). Solving traveling salesman problem using hybridization of rider optimization and spotted hyena optimization algorithm. *Expert Systems with Applications*, 183, 115353, <https://doi.org/10.1016/j.eswa.2021.115353>.
27. Das, S., Nayak, M., Senapati, M. R., & **Majhi, S.** (2022). Improving Time Series Prediction With Feature Selection Using a Velocity-Enhanced Whale Optimization Algorithm. *International Journal of Swarm Intelligence Research (IJSIR)*, 13(1), 1-29, DOI: 10.4018/IJSIR.307104.
28. Mishra, K., Pradhan, R., & **Majhi, S. K.** (2021). Quantum-inspired binary chaotic salp swarm algorithm (QBCSSA)-based dynamic task scheduling for multiprocessor cloud computing systems. *The Journal of Supercomputing*, 77, 10377-10423, <https://doi.org/10.1007/s11227-021-03695-7>.
29. Mishra, K., & **Majhi, S. K.** (2021). A binary Bird Swarm Optimization based load balancing algorithm for cloud computing environment. *Open Computer Science*, 11(1), 146-160.
30. Panda, N., & **Majhi, S. K.** (2021). Oppositional salp swarm algorithm with mutation operator for global optimization and application in training higher order neural networks. *Multimedia Tools and Applications*, 80(28-29), 35415-35439.
31. Panda, N., & **Majhi, S. K.** (2021). Effectiveness of Swarm-Based Metaheuristic Algorithm in Data Classification Using Pi-Sigma Higher Order Neural Network. In *Progress in Advanced Computing and Intelligent Engineering* (pp. 77-88). Springer, Singapore.
32. Mishra, K., Pati, J., & **Majhi, S. K.** (2022). A dynamic load scheduling in IaaS cloud using binary JAYA algorithm. *Journal of King Saud University-Computer and Information Sciences*, Vol. 34 (8), pp. 4914-4930.
33. **Majhi, S. K.**, Sahoo, M., & Pradhan, R. (2020). A space transformational crow search algorithm for optimization problems. *Evolutionary Intelligence*, 13(3), 345-364.
34. Pradhan, R., **Majhi, S. K.**, Pradhan, J. K., & Pati, B. B. (2020). Optimal fractional order PID controller design using Ant Lion Optimizer. *Ain Shams Engineering Journal*, 11(2), 281-291.
35. Panda, N., Majhi, S. K., Singh, S., & Khanna, A. (2020). Oppositional spotted hyena optimizer with mutation operator for global optimization and application in training wavelet neural network. *Journal of Intelligent & Fuzzy Systems*, 38(5), 6677-6690.
36. Pradhan, R., Majhi, S. K., & Jaypuria, J. (2020). An orthogonal moth flame optimization for global optimization and application to model order reduction problem. *Journal of Intelligent & Fuzzy*

- Systems, 38(5), 6649-6661.
37. Panda, N., & Majhi, S. K. (2020). Improved salp swarm algorithm with space transformation search for training neural network. *Arabian Journal for Science and Engineering*, 45(4), 2743-2761.
 38. Mishra, K., & Majhi, S. (2020). A State-of-Art on Cloud Load Balancing Algorithms. *International Journal of Computing and Digital Systems*, 9(2), 201-220.
 39. Majhi, S. K., Hossain, S. S., & Padhi, T. (2020). MFOFLANN: moth flame optimized functional link artificial neural network for prediction of earthquake magnitude. *Evolving Systems*, 11(1), 45-63.
 40. Panda, N., & Majhi, S. K. (2020). Improved spotted hyena optimizer with space transformational search for training pi-sigma higher order neural network. *Computational Intelligence*, 36(1), 320-350.
 41. Panda, N., & Majhi, S. K. (2020). How effective is the salp swarm algorithm in data classification. In *Computational Intelligence in Pattern Recognition* (pp. 579-588). Springer, Singapore.
 42. Majhi, S. K., Mishra, A., & Pradhan, R. (2019). A chaotic salp swarm algorithm based on quadratic integrate and fire neural model for function optimization. *Progress in Artificial Intelligence*, 8(3), 343-358.
 43. Mishra, A., & Majhi, S. K. (2019). A comprehensive survey of recent developments in neuronal communication and computational neuroscience. *Journal of Industrial Information Integration*, 13, 40-54.
 44. Majhi, S. K., Sahoo, M., & Pradhan, R. (2021). Oppositional Crow Search Algorithm with mutation operator for global optimization and application in designing FOPID controller. *Evolving Systems*, 12, 463-488.
 45. Majhi, S. K. (2021). Fuzzy clustering algorithm based on modified whale optimization algorithm for automobile insurance fraud detection. *Evolutionary intelligence*, 14(1), 35-46.
 46. Majhi, S. K., Bhatachharya, S., Pradhan, R., & Biswal, S. (2019). Fuzzy clustering using salp swarm algorithm for automobile insurance fraud detection. *Journal of Intelligent & Fuzzy Systems*, 36(3), 2333-2344.
 47. Pradhan, R., Majhi, S. K., & Pati, B. B. (2019). Design of fractional order PID controller for heat flow system using hybrid particle swarm optimisation and gravitational search algorithm. *International Journal of Computational Intelligence Studies*, 8(1-2), 59-72.
 48. Majhi, S. K., & Mahapatra, P. (2019). Classification of phishing websites using moth-flame optimized neural network. In *Emerging technologies in data mining and information security* (pp. 39-48). Springer, Singapore.
 49. Majhi, S. K. (2019). How effective is the moth-flame optimization in diabetes data classification. In *Recent Developments in Machine Learning and Data Analytics* (pp. 79-87). Springer, Singapore.
 50. Majhi, S. K., & Biswal, S. (2019). A hybrid clustering algorithm based on Kmeans and ant lion optimization. In *Emerging Technologies in Data Mining and Information Security* (pp. 639-650). Springer, Singapore.
 51. Majhi, S. K., & Biswal, S. (2018). Optimal cluster analysis using hybrid K-Means and Ant Lion Optimizer. *Karbala International Journal of Modern Science*, 4(4), 347-360.
 52. Mishra, A., & Majhi, S. K. (2018, October). Design and Analysis of Modified Leaky Integrate and Fire Model. In *TENCON 2018-2018 IEEE Region 10 Conference* (pp. 1976-1981). IEEE.
 53. Pradhan, R., Majhi, S. K., & Pati, B. B. (2018). Design of PID controller for automatic voltage regulator system using Ant Lion Optimizer. *World Journal of Engineering*, 15(3), 373-387.
 54. Majhi, S. K. (2018). An efficient feed foreword network model with sine cosine algorithm for breast cancer classification. *International Journal of System Dynamics Applications (IJSDA)*, 7(2), 1-14.
 55. Pradhan, R., Majhi, S. K., Pradhan, J. K., & Pati, B. B. (2018). Antlion optimizer tuned PID controller based on Bode ideal transfer function for automobile cruise control system. *Journal of Industrial Information Integration*, 9, 45-52.
 56. Majhi, S. K., Pal, S. S., Bhuyan, S., & Dhal, S. K. (2018). Queuing Analysis of Cloud Load Balancing Algorithms. *International Journal of Knowledge-Based Organizations (IJKBO)*, 8(1), 50-67.
 57. Majhi, S. K., & Dhal, S. K. (2018). Formal Analysis of Virtual Machine Migration and Identification of Faults. *International Journal of Knowledge-Based Organizations (IJKBO)*, 8(1), 16-28.
 58. Pradhan, R., Majhi, S. K., Pradhan, J. K., & Pati, B. B. (2017). Performance evaluation of PID controller for an automobile cruise control system using ant lion optimizer. *Engineering Journal*, 21(5), 347-361.
 59. Majhi, S. K., & Bera, P. (2015, October). A Security Enforcement Framework for Virtual Machine Migration Auction. In *Proceedings of the 2015 Workshop on Automated Decision Making for Active Cyber Defense* (pp. 47-53).
 60. Majhi, S. K., Bera, P., Kumar, S., Al-Shaer, E., & Satpathy, M. (2014). Synthesizing optimal security configurations for enterprise networks: a formal approach. 9th IET International Conference on System Safety and Cyber Security (2014), Manchester, UK.

Research Guidance

M.Tech. Guidance : 18 candidates completed

Guidance of Ph.D as Supervisor: 03 completed, 01 submitted

Sl.	Name of the Scholar	Title of the Thesis	University/Institute which Awarded the Ph.D.	Date of Award	University Notification No. & Date
1	Kaushik Mishra	Design of Intelligent Scheduling Algorithms for Cloud Computing	Veer Surendra Sai University of Technology, Burla	04.08.2021	No. VSSUT/PGS&R/1041(18)/21 Dated 09.08.2021

2	Nibedan Panda	Design and Application of Improved Metaheuristic algorithms for Neural Network training	Veer Surendra Sai University of Technology, Burla	17.08.2021	No. VSSUT/PGS&R/1167(18)/21 Dated 23.08.2021
3	M Murali Krishna	Design Of Metaheuristic Algorithms For Solving Combinatorial Problems	Veer Surendra Sai University of Technology, Burla	25.07.2024	No. VSSUT/PGS&R/1196/2024 Dated 31/07/2024
4	Abhijeet Mahapatra	Design of Efficient Scheduling Algorithms for Fog Computing	Veer Surendra Sai University of Technology, Burla	21.06.2025	No. VSSUT/PGS&R/862/2025 Dated 26/06/2025

Patents

S.N.	Title	Outcome	Level	Ref. No.
1	Graceful Resilient Mechanism for High Performed Gateway Service Deactivation – A Design Approach	Patents	International	202022100357.2
2	SOCIAL SCORE VALUE OF INDIVIDUALS FOR SOLVING SOCIAL PROBLEMS	Copyright	National	L-105055/2021
3	A system and Method for Scheduling Task in IOT –FOG-CLOUD Continuum	Patents	International	2021100648
4	Health Related Crisis ready plan through wireless sensor network and cloud computing at populated spots	Patents	International	2021100341

Dr. Santosh Kumar Majhi
27-Mar-2025