



Pradyumna Kumar Tripathy, Ph.D.

Designation : Associate Professor and HoD (CSE)

Department : Department of Computer Science & Engineering
(JOINED THE INSTITUTE IN 2007)

Contact : +91 9437141874 (M)

Email : ptripathy@silicon.ac.in,
pradyumnatripathy@gmail.com

RESEARCH INTERESTS

- ✓ Parallel Distributed Systems
- ✓ Reliability Engineering
- ✓ Interconnection Networks

Academic Qualifications

Ph. D. (Computer Science), Utkal University, India

M. Tech. (Computer Science), Utkal University, India

MCA, IGNOU, India

Teaching Experience/Industrial Experience/Research Experience

- ✓ More than 13 Years of Teaching and 10 years of research experience

SUBJECT TOUGHT:

Computer Architecture, Advanced Computer Architecture, System Programming, Operating System, Programming in C, C++, Data Structure, Database Management System, Parallel Distributed Systems

PUBLICATIONS

JOURNALS:

- [1] B. K. Mishra, **P. K. Tripathy**, A.K. Rath, "An Enhanced Image Segmentation Approach for Detection of Diseases in Fruits", International Journal of Information System Modeling and Design, IGI-Global, [ESCI, Scopus], Accepted, In Press, 2021.
- [2] **P. K. Tripathy**, A. K. Tripathy, A. Agarwal, and S. P. Mohanty, "MyGreen: An IoT-Enabled Smart Greenhouse for Sustainable Agriculture ". IEEE CEM [SCI, Scopus], Vol. 10, No. 4, pp. 57-62, 2021.

- [3] D. Das, C. R. Tripathy, **P. K. Tripathy**, "An insect inspired approach for optimization of tasks scheduling in computational grids, Evolutionary Intelligence, Springer Springer [ESCI, Scopus], Vol. 14, No. 2, pp. 999-1013, 2021.
- [4] A. K. Tripathy, **P. K. Tripathy**, A. G. Mohapatra, N. K. Roy, and S. P. Mohanty, "WeDoShare: A Ridesharing Framework in Transportation Cyber-Physical System for Sustainable Mobility in Smart Cities ". IEEE CEM [SCI, Scopus], Vol. 9, No. 4, pp.41-48, 2020.
- [5] K. Tripathy, **P. K. Tripathy**, A. G. Mohapatra, N. K. Ray, S. P. Mohanty, "WeDoShare: A Ridesharing Framework in Transportation Cyber-Physical System for Sustainable Mobility in Smart Cities", IEEE Consumer Electronics Magazine, Vol. 9, No. 4, pp. 41-48, 2020
- [6] D. Das, C. R. Tripathy, **P. K. Tripathy**, M. R. Kabat, and A. Sharma, "Optimal Design of Computational Grids Topology", Journal of Computational and Theoretical Nanoscience, Vol. 16, No.9, pp. 3754-3758, 2019
- [7] K. Mishra, A. K. Rath, **P. K. Tripathy**, "Detection of Fungal Contagion in Food Items Using Enhanced Image Segmentation", International Journal of Engineering and Advanced Technology (IJEAT), Vol. 8, No. 6, pp. 1748-1757, 2019
- [8] **P. K. Tripathy**, R. K. Dash, C. R. Tripathy, "A New Cost Effective and Reliable Interconnection Topology for Parallel Computing Systems", International Journal of Engineering and Advanced Technology (IJEAT), Vol. 8, No. 6, pp. 1186-1195, 2019
- [9] A. K. Tripathy and **P. K. Tripathy**, "Fuzzy QoS Requirement-Aware Dynamic Service Discovery and Adaptation ", Journal of Applied Soft Computing, Elsevier, Vol. 68, pp. 136-146, 2018.
- [10] K. Tripathy, **P. K. Tripathy**, N. K. Roy and S. P. Mohanty, "iTour: The Future of Smart Tourism AIoT Based Frame Work for Sustainable Mobility in Urban Area ". IEEE CEM, Vol. 7, No. 3, 2018.
- [11] D. Das, C. R. Tripathy, **P. K. Tripathy**, M. R. Kabat " A Genetic Algorithm Based Approach for Designing Multi-State Computational Grid with Cost and Bandwidth Constraints", Journal of King Saud University-Computer and Information Sciences, Elsevier, <https://doi.org/10.1016/j.jksuci.2018.10.006>, 2018.
- [12] D. Das, C. R. Tripathy, **P. K. Tripathy**, M. R. Kabat " System Reliability Estimation of Constrained Multi-state Computational Grids", BJIT, Springer, <https://doi.org/10.1007/s41870-018-0132-1>, 2018.
- [13] **P. K. Tripathy**, R. K. Dash, R. K. Dalei, C. R. Tripathy, " A Path-Set Based Approach for Two-Terminal Reliability Computation of Interconnection Networks," Journal of Engineering and Applied Sciences, Medwell Journals, Vol 13, No. 3, pp.3243-3249, 2018.

- [14] R. K. Dalei, A. Nayak, **P. K. Tripathy**, S. Champatiray, "Content Centric Framework for Wireless Sensor Networks," *Journal of Engineering and Applied Sciences, Medwell Journals*, Vol 12, No. 2, pp. 6234-6239, 2017.
- [15] **P. K. Tripathy**, S. Swain, R. K. Dash, C. R. Tripathy, "A Minimal Cut-Setbased Enumerative Approach for Two-Terminal Reliability Estimation," *International Journal of Control Theory and Applications*, Vol 10, No 13, Page 11-18, 2017.
- [16] **P. K. Tripathy**, I. Hota, R. K. Dash, C. R. Tripathy, "An Elementary Tree Transformation Based Approach for Reliability Estimation of Interconnection Networks," *International Journal of Innovations in Engineering and Technology*, Vol. 7, No. 4, Page 238-247, 2016
- [17] **P. K. Tripathy**, R. K. Dash, C. R. Tripathy, "A Dynamic Programming Based Approach for Layout Optimization of Interconnection Networks," *JESTECH, Elsevier*, Vol. 18, No 3, Page 374-384, 2015.
- [18] **P. K. Tripathy**, R. K. Dash, C. R. Tripathy, "An Efficient Method based on Self Generating Disjoint Minimal Cut Set Method for Reliability Measures of Interconnection Networks," *International Journal of Performability Engineering*, Vol. 10, No. 3, pp. 303-312, 2014
- [19] **P. K. Tripathy**, R. K. Dash, C. R. Tripathy, "A New Genetic Algorithm based Method for Topological Optimization of Interconnection Networks," *International Journal of Computer Applications*, Vol. 63, No 3, pp. 0975 – 8887, 2013.
- [20] R. K. Dash, N. K. Badpanda, **P. K. Tripathy** and C. R. Tripathy, "Network Reliability Optimization Problem of Interconnection Network under Node-Edge Failure Model," *Journal of Applied Soft Computing Elsevier*, Vol. 12, No. 8, pp. 2322–2328, 2012.

CONFERENCE PROCEEDINGS:

- [1] R. K. Dash, N. K. Badpanda, **P. K. Tripathy** and C. R. Tripathy, "System Reliability of Interconnection Networks with Heterogeneous Link Capacity," *12th International Conference on Information Technology (ICIT)*, Bhubaneswar, India, pp. 244- 247, 2009.
- [2] **P. K. Tripathy**, R. K. Dash, C. R. Tripathy, "A Self Generating Disjoint Minimal Cut-Set Method for Reliability Evaluation of Interconnection Networks," *International Conference on Signal Processing and communications (SPCOM) IISC, Bangalore*, pp. 1- 5, 2010

[3] **P. K. Tripathy**, R. K. Dash, C. R. Tripathy, "The Reliability of the Interconnection Networks through Self Generating Disjoint Minimal Cut-Set Method," *IEEE 4th International Symposium on Advanced Networks and Telecommunication Systems (IEEE ANTS) IIT, Mumbai*, pp. 97-99, 2010.

[4] **P. K. Tripathy**, R. K. Dash, C. R. Tripathy, "A Genetic Algorithm based Approach for Topological Optimization of Interconnection Networks," *2nd International Conference on Communication, Computing & Security [ICCCS-2012] NIT, Rourkela*, vol. 6, pp. 196-205, 2012.

[5] **P. K. Tripathy**, R. K. Dash, R. K. Dalei, C. R. Tripathy, "A Path-Set Based Approach for Two-Terminal Reliability Computation of Interconnection Networks," *International Conference on Innovative Research in Engineering and Science [IRES-2017]*, Asian Institute of Technology, Thailand, 16th-17th June 2017.

[6] **P. K. Tripathy**, S. Swain, R. K. Dash, C. R. Tripathy, "A Minimal Cut-Set based Enumerative Approach for Two-Terminal Reliability Estimation," *2nd International Conference on Sustainable Computing Techniques in Engineering, Science and Management (SCESM-2017)*, 2017.

[7] A. G. Mohapatra, **P. K. Tripathy**, M. Mohanty, and A. Khanna, IoT Enabled Distributed Cardiac Monitoring using Fiber Bragg Grating (FBG) Sensing Technology, 3rd Doctoral Symposium on Computational Intelligence (DoSci 2021), Dr. A. P. J. Abdul Kalam University, Lucknow, Available at SSRN: <https://ssrn.com/abstract=3842806> or <http://dx.doi.org/10.2139/ssrn.3842806>, 10th May 2021.

[8] Dipak R. Nayak, Anita Mohanty, Ambarish Gajendra Mohapatra, **P. K. Tripathy**, Bright Keswani, Amiya Kumar Samantaray, "IoT enabled predictive maintenance of diesel generator in the context to Industry 4.0", *19th OITS International Conference on Information Technology (OCIT)*, pp. 364-368, 2021.

BOOK CHAPTERS:

[1] A. G. Mohapatra, **P. K. Tripathy**, M. Mohanty, A. Khanna, "Fiber Bragg Grating (FBG) Sensor for the Monitoring of Cardiac Parameters in Healthcare Facilities", In: Gupta D., Khanna A., Kansal V., Fortino G., Hassanien A.E. (eds) *Proceedings of Second Doctoral Symposium on Computational Intelligence. Advances in Intelligent Systems and Computing*, vol. 1374. Springer, Singapore. https://doi.org/10.1007/978-981-16-3346-1_57, 2022. Print ISBN: 978-981-16-3345-4, Online ISBN: 978-981-16-3346-1

MEMBER OF
PROFESSIONAL
BODIES

- IEEE (Institute of Electrical and Electronics Engineers) (Senior Member)
- ISTE (Indian Society for Technical Education) (Life Member)
- OITS (Orissa Information technology Society) (Life Member)
- WLA (World Leadership Academy) (Senior Member)
- IAENG (International Association of Engineers) (Member)

RESEARCH
GUIDANCE

- Guided more than 35 students in their MTech Thesis
- Supervisor of 02 PhD students under BPUT

INVITED
LECTURES/TALKS/
SEMINARS

- Resource person for workshop "National Workshop on Simulation using MATLAB" at SUIIT, Sambalpur
- Resource person for Refresher Course on "Computer Science" at Utkal University, Bhubaneswar
- Resource person for Two days Seminar on "High Performance Computer Architecture" at IDCOL Group, Bhubaneswar
- Resource person for Two days Seminar on "Performance Issues in interconnection Networks" at LILAC Academy, Bhubaneswar
- Resource person for "Teachers Empowerment Program -2017 for PGT Comp. Sc". at DAV Unit-8, Bhubaneswar
- Resource person for TEQIP-III sponsored National Workshop on Machine Learning Using Python-2020 at Konark Institute of Science and Technology, Bhubaneswar
- Resource Person for a one day seminar on "Artificial Intelligence & Machine Learning" at Srusti Academy of Management, Bhubaneswar on 30th may 2020.
- Resource person for "Teachers Empowerment Program -2017" at Silicon Institute of Technology, Bhubaneswar
- Resource person for "Application of Machine Learning using Python" at Department of Computer Science and Application, Utkal University, Bhubaneswar.

AWARDS
RECEIVED

- **Swami Vivekananda Prativa Praskar-2016** for Contribution in Technical Education by Ever Green Forum, 15th August 2016
- OUWJ State Excellence Award-2019 for **Best Scientist** by OUWJ on 21st July 2019
- **Dr. APJ Abdul Kalam Award of Excellence** by SAISAB India Foundation for outstanding contribution in Computer Science and education on 15th October 2019
- **SuperTeacher Award** by LectureNotes Technology Pvt Ltd for 1,00,000 views at L ectureNotes, 20th May 2019.
- **University Foundation Day Research Award-2020**, by BPUT, 21st November 2020
- **ISTE Rajlaxmi Memorial Best Engineering College Teacher Award** for Odisha State for the Year 2020 (National Level Award-ISTE), received on 5th October 2021

PROJECT
FUNDINGS

- Project Title: **Design and Development of Fibre Bragg Grating Based Cardiac Probe for MRI Environment**
Funding Agency: TEQIP-III Collaborative Research Initiative Scheme (CRIS), BPUT, Odisha
Amount: 1,80,000/-
Duration: 1 year

PATENTS FILED

- Title: **User Guidance System**
Patentee Names: Ajaya Kumar Tripathy, **Pradyumna Kumar Tripathy**, Saraju Prasad Mohanty, Niranjana Kumar Ray
Patent Application Number: 201931032117 A
Date of Publication: 13-09-2019
- Title: **AEMC-IoT System: Agriculture Environment Managed and Control using IoT System**
Patentee Names: Dr. T. S. Gorripotu, A. Kanthi, S. R. Mallick, **Pradyumna Kumar Tripathy**, V. Jain, A. Mangal
Patent Application Number: 202041012395
Date of Publication: 23-03-2020
- Title : **Performance Enhancement of Polymer Deposited Fbg Sensor for Cardiac Parameter Monitoring in Mri Environment**

Patentee Names: Ambarish Gajendra Mohapatra, Ashish Khanna,
Deepak Gupta, Maitri Mohanty, **Pradyumna Tripathy**, Poonam Rani,
Piyush Kumar Pareek,

Patent Application Number: 202131001862 A

Date of Publication: 12-02-2021

- Title : **IOT based Personal Security System**

Patentee Names: Ajaya Kumar Tripathy, **Pradyumna Kumar Tripathy**,
Niranjan Kumar Ray, Saraju P. Mohanty

Patent Application Number: 202111004091 A

Date of Publication: 12-02-2021