

Prabhat Ranjan Singh

Department of Computer Science
Wuhan University of Technology
Wuhan, China 430070

Email: prabhatranjansingh68@gmail.com



DOB: 04/01/1990
Mobile: +91 9060642934

Education

Ph.D. Computer Science	Wuhan University of Technology, China	2019
M.Sc. Computer Science	South Asian University, India	2015
Bachelor of Computer Application	Sikkim Manipal University-DE, India	2011
Intermediate	Bihar School Examination Board, Patna, India	2008

Technical Skills

- C
- Java
- PL/SQL
- Python
- Machine Learning
- C++
- VB/C#/ASP.Net
- R
- Matlab
- Data Modeling

Advisor

Prof. Xiong Shengwu (2015 – 2019)

Research Interests & Statement

Swarm Intelligence, Neural Network, Data Classification, Engineering optimization Problem, etc.

My current research works are on global optimization, engineering optimization, and data classification problems using swarm intelligence algorithm. The recent work was to improve the Spider Monkey Optimization algorithm for global optimization problem as well as engineering optimization problem. Moreover, it has been utilized to train MLP in neural network for data classification.

The Ludo game based Swarm Intelligence algorithm has been proposed to improve the results of global and engineering optimization problems.

Current work is on the behavior of COVID-19 spreading from epidemic to pandemic and its controlling strategy. Using game theory (such as board game and card game) to improve the optimization efficiency of swarm intelligence. Also, apply the improved swarm intelligence in deep learning for parameter tuning. Moreover, the best-tuned parameter of neural network architecture will be used for the best feature selection and classification.

Awards, Funding, and Other Support

- Outstanding performance award from Wuhan University of Technology, Wuhan, China, 2017-2018.
- Excellent dorm representative of the international students' award from 2018-2019 academic years.
- Received MOFCOM scholarship for pursuing Ph.D. Degree in Computer Science from Wuhan University of Technology, Wuhan, China, 2015-2019.
- Received SAARC scholarship for pursuing M.Sc. in Computer Science from South Asian University, New Delhi, India, 2013-2015.
- Best Research Publication award from Wuhan University of Technology in 2019.

Certificates

- Certificate of Participation in the Symposium organized by Department of Computer Science, South Asian University, New Delhi on Image Processing and Pattern Recognition, October 31st to November 1st, 2013.

- Certificate of Merit for completed the Dot Net from HCL Career Development Centre, Dwarka, New Delhi, April 30th 2013.
- Certificate of Participation in Technophilia'14 organized by the school of Computer and System Sciences, Jawaharlal Nehru University, New Delhi, February 8th to 9th 2014.
- Certificate of Participation for the International workshop on Soft Computing and Applications (ISCA'15) jointly organized by the center for Soft Computing Research (CSCR), ISI, Kolkata and South Asian University, New Delhi, at New Delhi, March 25th to 27th, 2015.
- Certificate of Participation in the workshop on Vivado Design Tool Flow using ZED Board by Corel Technologies (I) Pvt Ltd, May 25th 2015.
- Certificate for Outstanding volunteer work at the welcome for new students from September 2nd to 6th, 2018.
- Certificate for outstanding volunteer work at the fire control training at November 3rd, 2018.
- Certificate of Participating in Wuhan University of Technology Inter Dormitory athletics games 2018.
- Certificate of Participation in the fourth WHUT-ICEA inter-dormitory Badminton Competition, 2017-2018.

Publications and Scholarly Work

Works in Progress

- Working on COVID-19 spreading behavior and its minimization concept on Swarm algorithm.
- Optimizing the Sustainable Multimodal Freight Transport and Logistic System.
- Working on the modal of Lizard attacking strategy on Moth for enhancing the exploration ability in many objective optimization problems.
- Mobile offload computing task optimization using swarm intelligence in order to improve the accessing request on user finger point.
- Modified Spider Monkey Optimization based on Local Random Search and Differential Evolution for Global Optimization.

Publications

- **Singh, Prabhat R.**, Mohamed Abd Elaziz, and Shengwu Xiong. "Ludo game-based metaheuristics for global and engineering optimization." *Applied Soft Computing* (2019): 105723.
- **Singh, Prabhat R.**, Mohamed Abd Elaziz, and Shengwu Xiong. "Modified Spider Monkey Optimization based on Nelder–Mead method for global optimization." *Expert Systems with Applications* 110 (2018): 264-289.
- Yadav, Rahul, Weizhe Zhang, Omprakash Kaiwartya, **Prabhat Ranjan Singh**, Ibrahim A. Elgendy, and Yu-Chu Tian. "Adaptive energy-aware algorithms for minimizing energy consumption and SLA violation in cloud computing." *IEEE Access* 6 (2018): 55923-55936.
- **Singh, Prabhat Ranjan**, Diallo Moussa, Xiong Shengwu, and Bikram Prasad Singh. "Improved Spider Monkey Optimization Algorithm to Train MLP for Data Classification." *3C Tecnologia* (2019).
- Diallo, Moussa, Shengwu Xiong, Moussa Nianigué Coulibaly, and **Prabhat Ranjan Singh**. "Synthetic minority oversampling technique in stages for unbalanced climate and rice dataset: the Office Du Niger case study." In *Proceedings of the 3rd International Conference on Telecommunications and Communication Engineering*, pp. 69-74. 2019.
- **Singh, Prabhat Ranjan**, Bishwajeet Pandey, Tanesh Kumar, and Teerath Das. "I/O standard based power optimized processor register design on ultra scale FPGA." In *2014 International Conference on Computing for Sustainable Global Development (INDIACom)*, pp. 172-177. IEEE, 2014.
- **Singh, Prabhat Ranjan**, Bishwajeet Pandey, Tanesh Kumar, Teerath Das and Om Jee Pandey. Output load capacitance based low power implementation of UART on FPGA. In *2014 International Conference on Computer Communication and Informatics* (pp. 1-4). IEEE.
- **Singh, Prabhat Ranjan**, Bishwajeet Pandey, Tanesh Kumar, and Teerath Das. "LVCMOS I/O standard based million MHz high performance energy efficient design on FPGA." In *2013 International Conference on Communication and Computer Vision (ICCCV)*, pp. 1-4. IEEE, 2013.

Theses

- *Balancing between Exploration and Exploitation Ability in Swarm Intelligence for Global Optimization*. Thesis (Ph.D.) Wuhan University of Technology, Department of Computer Science, 2019.