Prabhat Ranjan Singh

School of Computer Science
University of Petroleum and Energy Studies
Dehradun, Uttarakhand
India - 248007
Email: prabhatranjansingh68@gmail.com
Mobile: +91 9060642934

DOB: 04/01/1990

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, India	2011
Intermediate		Bihar School Examination Board, Patna, India	2008

Technical Skills

- C
- C++
- HTML
- Adv. Java
- VB/C#/ASP.Net
- CSS
- PL/SQL
- Python
- JS, jQuery
- Matlab
- R
- Bootstrap
- Machine Learning
- Deep Learning
- NLP

Work Experience

- Research Associate in the Dept. of computer science, Banaras Hindu University, UP, India from Jan 2020 to 23rd Jan2023.
- Assistant Professor in Amity Institute of Information Technology, Amity University, Patna from 25th Jan 2023 to 17th Nov 2023.
- Assistant Professor (Senior scale) in the school of Computer Science, University of Petroleum and Energy Studies, Dehradun from 20th Nov 2023 to Present.

Ph.D. Supervisor

Prof. Xiong Shengwu (2015 – 2019)

Research Interests & Statement

Artificial Intelligence, Swarm Intelligence, Neural Networks, Data Classification, Engineering Optimization Problems, Network Technology.

However, existing research has focused on improving the Spider Monkey Optimization algorithm for global and engineering optimization problems. It's also been applied to train MLP for data classification in a neural network. On the other hand, Ludo's game-based Swarm Intelligence algorithm was better at solving global and engineering optimization problems than the other well-known metaheuristic algorithms. My current research interest is on traffic management in densely populated urban areas using metaheuristic optimization algorithm (for Intelligent route guiding), the Internet of Things and blockchain (for secure monitoring and smart parking). Also, the new direction of my research is "Drone Swarm Computing". This is where multiple smart network-based drones will be utilized between cloud and edge computing for the fastest throughput with the minimum latency, and their movements, capabilities, and loads will be optimized using a metaheuristic method.

Awards, Funding, and Other Support

- Outstanding performance award from Wuhan University of Technology, Wuhan, China, 2017-2018.
- 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.

Certificates

- Certificate of Participation in the Symposium organized by the 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, 8th to 9th February 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 CorelTechnologies (I) Pvt Ltd, 25th May, 2015.
- Certificate for Outstanding volunteer work at the welcome for new students from 2nd to 6th September 2018.
- Certificate for outstanding volunteer work at the fire control training at 3rd November 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.
- Certificate of Excellent dorm representative of the international students in 2018-2019 academic years.
- One Week faculty development program on "Exploring the frontiers: FDP on cutting edge emerging technologies for educators", from July 10th to 14th 2023.

Publications and Scholarly Work

Works in Progress

- Lizard-Moth Flame Optimization algorithm for enhancing the exploration ability in optimization problems.(In review "Expert System with Applications", Journal).
- Healthcare Text and Voice Generative Pre-Trained Transformer Assistant on Smart Vehicle. (In review, "IEEE BIBM 2023", Conference).
- Impact of Socio-Economic Development on Carbon Emissions: Mitigation Strategies through Energy Transition and Foreign Direct Investment. ("Energy Policy", Journal).
- Improved Local Leader Strategy in Spider Monkey Optimization for Global Optimization Problems. (In progress)

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.
- **Singh, Prabhat Ranjan**, Singh, V., Yadav, R., & Chaurasia, S., "6G Networks for Artificial Intelligence- Enabled Smart Cities Applications: A Scoping Review." Telematics and Informatics Reports (2023): 100044.
- **Singh, Prabhat Ranjan**, Diallo Moussa, Xiong Shengwu, and Bikram Prasad Singh. "Improved SpiderMonkey Optimization Algorithm to Train MLP for Data Classification." 3C Tecnologia (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.
- Mona Alariqi, Wei Long, **Prabhat Ranjan Singh**, Abdo Al-Barakani, and Abdullahi Muazu. " Modelling dynamic links among energy transition, technological level and economic development from the perspective of economic globalisation: Evidence from MENA economies." Energy Reports 9 (2023): 3920-3931.
- 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.
- 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.
- Rani, S., Jining, D., Shah, D., Xaba, S., & **Singh, P. R.** (2023). Exploring the Potential of Artificial Intelligence and Computing Technologies in Art Museums. In ITM Web of Conferences (Vol. 53). EDP Sciences.
- Rani, S., Jining, D., Shah, D., Xaba, S., & **Singh, P. R.** (2023). The Potential Application of Artificial Intelligence in Healthcare and Hospitals. In ITM Web of Conferences (Vol. 53). EDP Sciences.
- Rani, S., Jining, D., Shah, D., Xaba, S., & **Singh, P. R.** (2023). The Role of Artificial Intelligence in Art: A Comprehensive Review of a Generative Adversarial Network Portrait Painting. In International Conference on Intelligent Computing & Optimization (pp. 126-135). Cham: Springer Nature Switzerland.
- Rani, S., Jining, D., Shah, D., Xaba, S., & **Singh, P. R.** (2023). Revolutionizing the Creative Process: Exploring the Benefits and Challenges of AI-Driven Art. In International Conference on Intelligent Computing & Optimization (pp. 234-243). Cham: Springer Nature Switzerland.

Thesis

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

Project work

- Yahoo finance live share record extraction and next two days share prediction for customer support (YFinBot).
- Product, price, quality and quantity extraction from multi e-marketing website for customer support.