Pangambam Sendash Singh

M.Sc. (Computer Science), UGC-NET (JRF), Ph.D. (Computer Science)

Assistant Professor (Senior Scale) at University of Petroleum & Energy Studies (UPES), Dehradun

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Educational Background

2022 **Doctor of Philosophy** (Computer Science)
Banaras Hindu University, Varanasi
Thesis title: *Machine Learning Based Efficient Approaches for Improving the Performance of Multi-faceted Hyperspectral Imaging Applications*

2015 **Master of Science** (Computer Science)
Banaras Hindu University, Varanasi

2012 **Bachelor of Science** (Physics (Hons.) with Computer Science and Mathematics)
D.M. College of Science (Manipur University), Imphal

Academic Achievements

- **State subject topper in Computer Science (97%)** securing **all Manipur 20th Position** in Higher Secondary Examination (Science) conducted by Council of Higher Secondary Education, Manipur in the year 2009.
- Awarded **INSPIRE Scholarship for Higher Education** by Department of Science and Technology, GoI (2009-2013).
- Awarded **State Merit Scholarship** by Department of Education (S), Government of Manipur (2009-2010).
- Recipient of **(Late) N. Lakhi Devi Memorial Gold Medal** for securing **highest marks in Computer Science** for D.M. College of Science, Imphal in B.Sc. Degree in the year 2012.
- Qualified **GATE** in Computer Science and Information Technology (2015).
- Qualified **UGC-National Eligibility Test (NET)** in Computer Science and Applications (June 2015).
- Awarded **Junior Research Fellowship (NET-JRF)** in December 2015 and subsequently **Senior Research Fellowship** by the University Grants Commission (UGC), New Delhi, India.

Work Experience

Assistant Professor (Senior Scale), August 2024 – Present
School of Computer Sciences, University of Petroleum & Energy Studies, Dehradun
Roles: Teaching & Research.

Assistant Professor, January 2024 – August 2024
Department of Computer Applications, Manipal University Jaipur
Roles: Teaching & Research.

Postdoctoral Researcher, August 2022 – January 2024
Institut Català d'Arqueologia Clàssica (ICAC), Tarragona (Spain)
Project: Mapping Archaeological Heritage in South Asia (MAHSA)
Roles: Investigating novel machine learning algorithms to automatically detect archaeological heritage sites using data obtained from multiple satellite imageries.

List of Publications

- **Papers published in peer-reviewed indexed journals:**

Main publications:

1. **Singh, Pangambam Sendash** & Subbiah Karthikeyan (2022). "Enhanced classification of remotely sensed hyperspectral images through efficient band selection using autoencoders and genetic algorithm." *Neural Computing and Applications*, 34, 21539–21550. Springer. doi: 10.1007/s00521-021-06121-4 (**SCIE, Impact Factor: 6.0**)
2. **Singh, Pangambam Sendash** & Subbiah Karthikeyan (2022). "Salient object detection in hyperspectral images using deep background reconstruction based anomaly detection." *Remote Sensing Letters*, 13(2), 184–195. Taylor & Francis. doi: 10.1080/2150704X.2021.2005270 (**SCIE, Impact Factor: 2.3**)
3. **Singh, Pangambam Sendash**, Vijendra Pratap Singh, Manish Kumar Pandey & Subbiah Karthikeyan (2021). "Enhanced classification of hyperspectral images using improvised oversampling and undersampling techniques." *International Journal of Information Technology*. Springer. doi: 10.1007/s41870-021-00676-0 (**Scopus, IF: NA**)
4. **Singh, Pangambam Sendash**, Vijendra Pratap Singh, Manish Kumar Pandey & Subbiah Karthikeyan (2020). "Local Binary Ensemble based Self-training for Semi-supervised Classification of Hyperspectral Remote Sensing Images." *Computación y Sistemas*, 24(2), 497–509. doi: 10.13053/CyS-24-2-3374 (**Scopus, ESCI, Impact Factor: 0.6**)

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Collaborations:

5. Vikash Kumar Mishra, Kamlesh Kumar Verma, Triloki Pant, Govind Murari Upadhyay, **Pangambam Sendash Singh** & Pramod Kumar Soni (2024). "Analysis of Urbanization Impact on Land Surface Temperature Variability by Using Landsat Imagery." *SN Computer Science* 5(863). doi: 10.1007/s42979-024-03226-0 (**Scopus, Impact Factor: NA**)
6. Nath, Abhigyan, Rathore, Sudama, & **Singh, Pangambam Sendash** (2023). "Exploiting ensemble learning and negative sample space for predicting extracellular matrix receptor interactions." *Mathematical Biology and Bioinformatics*, 18(1), 113–127. doi: 10.17537/2023.18.113 (**Scopus, IF: NA**)
7. Singh, Vijendra Pratap, Manish Kumar Pandey, **Singh, Pangambam Sendash** & Subbiah Karthikeyan (2020). "An LSTM Based Time Series Forecasting Framework for Web Services Recommendation." *Computación y Sistemas* 24(2), 687–702. doi: 10.13053/CyS-24-2-3402 (**Scopus, ESCI, Impact Factor: 0.6**)

- **Conference Proceedings:**

1. **Singh, Pangambam Sendash**, Vijendra Pratap Singh, Manish Kumar Pandey & Subbiah Karthikeyan (2020). "One-class Classifier Ensemble based Enhanced Semisupervised Classification of Hyperspectral Remote Sensing Images." *International Conference on Emerging Smart Computing and Informatics (ESCI), 2020*, (pp. 22–27). IEEE Xplore., doi: 10.1109/ESCI48226.2020.9167650.
2. Singh, Vijendra Pratap, Manish Kumar Pandey, **Pangambam Sendash Singh** & Subbiah Karthikeyan. "Neural Net Time Series Forecasting Framework for Time-Aware Web Services Recommendation." *Third International Conference on Computing and Network Communications (CoCoNet'19)*, Procedia Computer Science 171, (2020): 1313–22. doi: 10.1016/j.procs.2020.04.140
3. Singh, Vijendra Pratap, Manish Kumar Pandey, **Pangambam Sendash Singh** & Subbiah Karthikeyan. "An Econometric Time Series Forecasting Framework for Web Services Recommendation." *International Conference on Computational Intelligence and Data Science ICCIDS 2019*, Procedia Computer Science 167, no. ICCIDS 2019 (2020): 1615–25. doi: 10.1016/j.procs.2020.03.372

- **Book Chapter:**

1. Singh, Vijendra Pratap, Pandey Manish Kumar, **Singh, Pangambam Sendash** & Karthikeyan Subbiah. "An Empirical Mode Decomposition (EMD) Enabled Long Short Term Memory (LSTM) Based Time Series Forecasting Framework for Web Services Recommendation." *Frontiers in Artificial Intelligence and Applications, Vol: 320 Fuzzy Systems and Data Mining V* (2019), 715–723. doi: 10.3233/FAIA190241

Research Area

- Data Mining
- Machine Learning
- Deep Learning

Technical Skills

- **Programming Languages:** C, MATLAB, Python (Currently exploring)
- **Document Preparation Systems:** Latex, Beamer, MS Word
- **Machine Learning Tools/Simulators:** Weka
- **Application Software:** MS Office, Adobe Photoshop
- **Web Design Languages:** HTML, CSS

Personal Details

Father's name:	Pangambam Ibomcha Singh
Mother's name:	Pangambam Sumobala Devi
Date of birth:	01/02/1992
Permanent address:	Poiroukhongjin Kaina Road P.O. Thoubal, Imphal East District Manipur - 795138, India.
Nationality:	Indian
Marital status:	Married
Linguistic ability:	Manipuri (Mother Tongue), Hindi (Fluent), English (Good)
Hobbies:	Singing, playing musical instruments and writing poems.

Referees

Prof. S. Karthikeyan (Ph.D.)
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Dr. T. Sonamani (Ph.D.)
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