

# 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 20<sup>th</sup> 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:

- 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)
- 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)
- 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)
- 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. 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)
6. 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

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

## Referees

**Prof. S. Karthikeyan (Ph.D.)**  
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