Shashikanta Sahoo

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Education

Goverment College of Engineering Kalahandi,Bhawanipatana,BPUT Odisha, India
B.Tech in Electrical Engineering 2019 - 2023

- CGPA: 8.72/10, Rank: 03/64.

Academic Experience

Indian School of Business Hyderabad, India
Research Associate August 2024 – Present

- **Advisor:** Prof. Sumeet Kumar and Prof. Ashique KhudaBukhsh (RIT)
- **Research Area:** Natural Language Generation and Multi-modal Analysis

Indian Institute of Technology, Madras Chennai, India
Research Associate June 2023 – July 2024

- **Advisor:** Prof. A.N. Rajagopalan
- **Research Area:** Sports Analytics and Action Classification
- **Research Preprint:** BoxMAC – A Boxing Dataset for Multi-label Action Classifications

Publications

1. Shantipriya Parida, **Shashikanta Sahoo**, Sambit Sekhar, Kalyanamalini Sahoo, Ketan Kotwal, Sonal Khosla, Satya Ranjan Dash, Aneesh Bose, Guneet Singh Kohli, Smruti Smita Lenka, Ondrej Bojar. **OVQA: A Dataset for Visual Question Answering and Multimodal Research in Odia Language.** *IndoNLP workshop at COLING*, 2025. Paper, Dataset, Presentation
2. Shantipriya Parida, **Shashikanta Sahoo**, Sambit Sekhar, Upendra Kumar Jena, Sushovan Jena, Kusum Lata. **OdiaGenAI's Participation in WAT2024 English-to-Low Resource Multimodal Translation Task.** *Shared Task Paper accepted to Ninth Conference on Machine Translation at EMNLP*, 2024. Paper, Code, Poster
3. Shantipriya Parida, Alakananda Tripathy, Satya Ranjan Dash, and **Shashikanta Sahoo**. **MDOLC: Multi Dialect Odia Song Lyric Corpus.** *International Conference on Recent Advancements in Artificial Intelligence and Soft Computing*, 2023. Paper, Code

Internships

BengaliGPT: Instruction-Following LLaMA Model for Bengali | OdiaGenAI.org
March 2023 - July 2023

- Developed BengaliGPT, a model based on the Llama-7b architecture, fine-tuned with a 252k Bengali instruction set sourced from open datasets.
- Incorporated advanced Bengali text generation and text-to-speech features, making the model available for research and non-commercial use. Resources: Pre-print, Dataset, Blog.

Fully Convolutional Network Bootstrapped by Word Encoding and Embedding for Activity Recognition in Smart Homes | NIT Rourkela May 2022 - July 2022

- Proposed the integration of Natural Language Processing (NLP) techniques with Time Series Classification (TSC) methods for feature extraction in Activity Recognition within Smart Homes.
- Utilizing CASAS datasets, the approach leverages term frequency encoding to improve feature extraction. A comparison of Fully Convolutional Networks (FCNs) with Long Short-Term Memory (LSTM) classifiers demonstrated that FCNs outperform LSTMs. Furthermore, event encoding and embedding significantly enhanced classifier performance.

Projects

Fault Diagnosis and Prediction in a Feeder Pump Using Deep Learning Techniques
IIT Mandi May 2023 - July 2023

- Analyzed pipeline data from various sources, including sensors, network logs, and operational records of thermal power plants.
- Designed and optimized an RNN-based deep learning model for detecting pipeline anomalies. Resource: Code

Checkbox Detection and Digit Recognition Using Deep Learning Techniques
Playpower Lab May 2022 - July 2022

- Contributed to the creation of a dataset for Gujarati digit recognition and the development of models for digit recognition tasks and checkbox detection.
- Led the proposal and implementation of baseline CNN algorithms, achieving up to 95% accuracy at Play Power Lab. Resource: Code

Skin Cancer Classification Using Transfer Learning Model
NIT Rourkela Jan 2022 - Feb 2022

- Proposed a Skin Cancer Classification approach using VGG16 as a pretrained model, followed by classification with Random Forest.
- Achieved an accuracy of 85% in classifying two types of skin cancer: benign and malignant. Resource: Code

Skills

Languages: Proficient: Python, MySQL, C, MATLAB | Familiar: R, Java
Frameworks: Proficient: PyTorch, TensorFlow | Familiar: NLTK, OpenCV, spaCy, Keras
Tools: AWS, Docker, LangChain, GitHub

Select Coursework, & Academic Services

Select Coursework:

- **Machine Learning**: Image Signal Processing (Prof. A.N. Rajagopalan, IIT Madras), Deep Learning for Computer Vision (Prof. Kaushik Mitra, IIT Madras), Natural Language Processing, Deep Learning (Andrew Ng, Coursera).
- **Mathematics**: Discrete Mathematics, Linear Algebra (NPTEL), Probability and Statistics (NPTEL).
- **Computer Science**: Object-Oriented Programming, Data Structures, Algorithms, Software Engineering.

Teaching Assistantships:

- **RCS7D007 - Soft Computing**, BPUT, Odisha (Prof. Bikash Meher) - Fall 2021
- **EE5175W - Image Signal Processing**, IIT Madras (Prof. A.N. Rajagopalan) - Fall 2023

Academic Services:

– **Reviewer for**: *WMARK@ICLR2025*, *AAAI 2025 Workshop AIGOV*, *AAAI 2025 Workshop MARW*, *ICVGIP 2024*

Awards & Honors

- **Finalist**, Smart India Hackathon, recognized for innovative problem-solving. Apr 2023
- **Selected Participant**, 7th CVIT Summer School, IIIT Hyderabad. Jul 2023
- **Academic Scholarship**, Awarded a tuition fee waiver by Biju Patnaik University of Technology for three consecutive years. Sep 2023
- **Merit Award**, Ranked in the top 5% in the 12th-grade examinations among 200,000 students; awarded under the Biju Laptop Yojana. May 2020