

Saranga Kingkor Mahanta

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Education

Sorbonne Université, France

PHD IN COMPUTER SCIENCE (MACHINE LEARNING FOR DIGITAL HUMANITIES)

Feb. 2026 – Present

Institut Polytechnique de Paris, France

MASTER IN DATA AND ARTIFICIAL INTELLIGENCE

Grade (0-20): 15.85

Sep. 2022 – Oct. 2024

National Institute of Technology Silchar, India

BACHELOR OF TECHNOLOGY IN ELECTRONICS AND COMMUNICATION ENGINEERING

CGPA (0-10): 9.10

Aug. 2018 – Jun. 2022

Work Experience

Sorbonne Université

DOCTORAL RESEARCHER

Paris, France

Feb. 2026 – Present

- Applying computer vision and multimodal methods for interpretation and restoration of Byzantine seals
- Collaborating with historians to design machine learning tools for automatic sigillographic analysis

Institut de Biologie de l'Ecole Normale Supérieure (IBENS)

RESEARCH ENGINEER (CDD)

Paris, France

Jan. 2025 – Jan. 2026

- Worked on smartphone-embedded deep learning models for microscopic and sub-microscopic malaria detection
- Developed an app and optimized models for deployment under mobile constraints
- Contributed to end-to-end pipeline from data acquisition to model evaluation on microscopic thin blood smear images

Institut de Biologie de l'Ecole Normale Supérieure (IBENS)

RESEARCH INTERN (MASTER THESIS)

Paris, France

Apr. 2024 – Oct. 2024

- Proposed diffusion model-based counterfactual explanations for interpreting classifier decisions on biological datasets
- Designed a DDIM-based autoencoder with a structured semantic latent space capturing classifier-specific attributes
- Leveraged self-supervised learning to identify interpretable directions in latent space and analyze model behavior

Google Summer of Code (2023 and 2022)

CONTRIBUTOR AT ML4SCI (MACHINE LEARNING FOR SCIENCE)

May – Sep. 2023 | Jun. – Sep. 2022

- Performed regression, classification, anomaly detection tasks on Strong Gravitational Lensing datasets
- Analyzed dark matter substructures
- Benchmarked model performance, contributing to improvements in the DeepLense pipeline

DXOMARK

INTERN

Boulogne-Billancourt, France

Apr. 2023 – Jul. 2023

- Evaluated robustness of image quality assessment models through stress testing
- Designed and implemented an automated pipeline to streamline testing and evaluation workflows

NIT Silchar in collab. with Aix-Marseille University

RESEARCH INTERN

Silchar, India | Marseille, France

Jul. 2021 – Sep. 2021

- Developed methods for evaluating abstractive text summarization using textual entailment
- Applied NLP techniques to assess semantic consistency between generated summaries and source texts
- Contributed to research on evaluation metrics for natural language generation systems

Publications

*Equal contribution

Detection of Malaria Infection from parasite-free blood smears

Nicolas Bourriez*, Saranga Kingkor Mahanta*, Ivan Svatko, Eleanor Lacassagne, et al.

medrxiv (preprint) 

DiffEx: Explaining a Classifier with Diffusion Models to Identify Microscopic Cellular Variations

Anis Bourou*, Saranga Kingkor Mahanta*, Thomas Boyer, Auguste Genovesio

Under review at MICCAI 2026 [↗](#)

Exploiting Cepstral Coefficients and CNN for Efficient Musical Instrument Classification

Saranga Kingkor Mahanta, Nihar Jyoti Basisth, Eisha Halder, Abdullah Faiz Ur Rahman Khilji, Partha Pakray

Evolving Systems (2023) [↗](#)

Textual Entailment as an Evaluation Metric for Abstractive Text Summarization

Swagat Shubham Bhuyan*, Saranga Kingkor Mahanta*, Partha Pakray, Benoit Favre

Natural Language Processing Journal (2023) [↗](#)

COVID-19 Diagnosis from Cough Acoustics using ConvNets and Data Augmentation

Saranga Kingkor Mahanta, Shubham Jain, Hoang Van Truon, Darsh Kaushik, Koushik Guha

Presented at First International Conference on Advances in Computing and Future Communication Technologies (ICACFCT) IEEE Xplore (2021) [↗](#)

Deep Neural Network for Musical Instrument Recognition using MFCCs

Saranga Kingkor Mahanta, Abdullah Khilji, Partha Pakray

Computación y Sistemas (2021) [↗](#)

Other Projects

A Study on Diffusion Models and Compression Methods

Jan. 2024 - Apr. 2024

M2 RESEARCH PROJECT

- Conducted a study on Block-removed Knowledge-distilled Stable Diffusion Models

Impact of Different Distance Measures on Quality of Node Embeddings

Jan. 2023 - Apr. 2023

M1 RESEARCH PROJECT

- Evaluated the impact of different distance metrics used to compute pairwise similarities among node embeddings of graph data for anomaly detection

Efficient Image Retrieval using Robust Image Hashes

Oct. 2021 - May 2022

BACHELOR THESIS PROJECT

- Used a supervised transfer-learning approach to generate hash and perform efficient Content-Based Image Retrieval

Honors & Awards

2022	Charpak AME Scholarship from the Embassy of France in India - Full scholarship to pursue a Master's degree in France	Campus France
2021	1st position in the DiCOVA 2021 Challenge for the Track 1 problem statement- COVID-19 diagnosis from cough sound recordings	DiCOVA 2021 Challenge
2020	Finalist in the National Crystal Ball 2020 Hackathon for the problem statement- prediction of delivery time of restaurants	Blue Yonder
2020	Grand Finalist in Smart India Hackathon (SIH) 2020: Built and incorporated with the main website a modified spam classifier, a time series forecasting instance using SARIMA, and a chatbot	MHRD, Govt. of India

Technical Skills

Programming Python, C/C++

Frameworks PyTorch, Flask, Flutter

Tools & Systems Git, Hydra, WandB, HPC (SLURM)

Research Interests Computer Vision, Multimodal Learning, Generative Modelhhoing, Representation Learning

Languages

English (fluent), **Assamese** (native), **Hindi** (fluent), **French** (elementary)