Saranga Kingkor Mahanta

(+91) 84748 26199 | saranga.mahanta7@gmail.com | sarangamahanta.netlify.app | Saranga7 | saranga-mahanta7 | SKM

Education

National Institute of Technology Silchar, India — *CGPA: 9.04*
Bachelor of Technology in Electronics and Communication Engineering — *Aug. 2018 - June. 2022 (Expected)*

Army Public School Narangi, Guwahati — *Percentage: 92.6%*
Intermediate Science (Physics, Chemistry, Mathematics, Computer Science) — *2016 - 2018*

Sarala Birla Gyan Jyoti, Amingaon, Guwahati — *CGPA: 10*
Matriculation — *2004 - 2016*

Experience

Aix-Marseille University colab. NIT Silchar — *Marseille, France | Silchar, India*
Research Intern — *July 2021 - Sep. 2021*

- Worked under Dr. Benoit Favre and Dr. Partha Pakray
- Worked on developing a reliable metric for Abstractive Text Summarization using Textual Entailment

Devopedia — *Bengaluru, India*
Data Science Intern — *Jun. 2021 - Aug. 2021*

- Performed web scraping using **BeautifulSoup** and used **Feed-forward Neural Networks** to automatically identify Title, Author and Year (of publishing) entities from any webpage
- Built an end-to-end system using **Python** that generates Reference Citation strings in the Chicago Manual Style format from URL inputs

The Sparks Foundation — *Singapore*
Computer Vision Intern — *Dec. 2020 - Jan. 2021*

- Fine-tuned **VGG19** to build a real-time face mask detector
- Exploited **K-Means clustering** to identify major colours in an image and search images having particular colour via colour name

Publications

"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
Paper under review at ***Neural Computing and Applications***

"Textual Entailment as an Evaluation Metric for Abstractive Text Summarization"

Swagat Shubham Bhuyan, **Saranga Kingkor Mahanta**, Partha Pakray, Benoit favre
Paper under review at ***Journal of Artificial Intelligence Research***

"COVID-19 Diagnosis from Cough Acoustics and ConvNets"

Saranga Kingkor Mahanta, Shubham Jain, Darsh Kaushik, Koushik Guha
Paper accepted at ***IEEE International Conference on Advances in Computing and Future Communication Technologies 2021*** *- MIET Meerut*

"Deep Neural Network for Musical Instrument Recognition using MFCCs"

Saranga Kingkor Mahanta, Abdullah Khilji, Partha Pakray
Computación y Sistemas*: Vol 25, No 2 (2021)*

Key Projects

Abstractive Text Summarization Evaluation using Textual Entailment
July 2021 - Sep. 2021

GUIDE: DR. BENOIT FAVRE & DR. PARTHA PAKRAY — *Link to project*

- Formulated novel methods for efficiently evaluating summaries generated by **Abstractive Text Summarization** systems using **Textual Entailment**
- Compared summaries generated by a baseline **Seq2Seq LSTM** model having **Attention** mechanism with a pre-trained **BART**-based text summarizer, using proposed evaluation metric

COVID-19 Diagnosis from Cough Sounds
Mar. 2021

DICOVA 2021 CHALLENGE — *Link to project*

- Used **Audiomentations** & **ConvNet** to efficiently classify cough sounds belonging to Coronavirus positive and negative subjects
- Claimed the first position in the DiCOVA 2021 Challenge leaderboard

Multi-class Musical Instrument Recognition
Dec. 2020 - Jan. 2021

GUIDE: DR. PARTHA PAKRAY — *Link to project*

- Extracted Mel-Frequency Cepstral Coefficients from monophonic audio clips
- Architectured **CNN**s, **Feed-forward Neural Networks** and achieved state-of-the-art accuracies on the Philharmonia Orchestra dataset

Spam, Random Text and Abusive Words Classifier
July 2020 - Aug. 2020

SMART INDIA HACKATHON 2020 — *Link to project*

- Built a **Spam Classifier** using **Multinomial Naive Bayes** algorithm
- Performed additional hardcoding to detect random gibberish texts and selected abusive words
- Deployed on the Web using **Flask**
- Integrated the classifier with main website presented in SIH-2020 Grand Finale

Positions of Responsibility

Machine Learning Club, NIT Silchar
NIT Silchar

SENIOR CORE MEMBER — *Sep. 2019 - Present*

- Club Objective- Providing mentorship to ML enthusiasts and develop the ML/DL culture in college
- Club activities include taking classes, hosting quizzes, interviews and ML hackathons
- Taught Machine Learning fundamentals to juniors and beginners

Achievements

2021	**Bagged 1st position in the DiCOVA 2021 Challenge leaderboard** 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 - 2020, organized by MHRD, Government of India.** Built and incorporated with the main website a modified spam classifier, a time series forecasting instance using the SARIMA model, and a chatbot using Dialogflow	*Sage University, Indore*
2020	**Organized Electro-hunt in Sprectrum 5.0** , the technical weekend of Electronics and Communication Society, NIT Silchar	*NIT Silchar*
2018	**Winners of Robo-Soccer, Tecnoesis** , the annual technical festival of NIT Silchar	*NIT Silchar*

Technical Strengths

Computer Languages	Python, C, C++, HTML, CSS, MySQL
Software and Tools	Git, LaTeX, Adobe Photoshop
Libraries & Frameworks	PyTorch, TensorFlow, Flask, NumPy, Pandas, OpenCV, Librosa, Scikit-learn
Domain Interests	Computer Vision, NLP, Speech Processing, Generative and Adversarial Learning

Key Courses Undertaken

Computer Science: Deep learning (5 course specialization by deeplearning.ai on Coursera) , Machine Learning (Course by Stanford on Coursera), Neural Networks and Fuzzy Logic, Data Structures and Algorithms, Computer Networking, C Programming

Mathematics and Statistics: Calculus, Linear Algebra, Differential Equations, Probability and Statistics.

Certifications

-30 Days of Google Cloud Platform, *October 2020*

- Neural Networks and Deep Learning | *Deeplearning.ai, Coursera*

- Introduction to Tensorflow for AI, ML and DL | *Deeplearning.ai, Coursera*

- Machine Learning with Python | *IBM Badge*

- Machine Learning | *Stanford University*

- Python Data Structures | *University of Michigan, Coursera*