Saranga Kingkor Mahanta

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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, Assam, India — *Percentage: 92.6%*
Intermediate Science (Physics, Chemistry, Mathematics, Computer Science) — *2016 - 2018*

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

Experience

University of Franche-Comté — *Besançon, France*
Research Intern — *Jan. 2022-Present*

- Working under Dr. Raphaël Couturier
- Working on Autoencoders and Object Detection algorithms to predict optimal clusters in unlabelled data

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

- Worked under Dr. Benoit Favre and Dr. Partha Pakray
- 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 pre-trained BART-based text summarizer using proposed evaluation metric

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
- Constructed an end-to-end system using Python that generates Reference Citation strings in the Chicago Manual Style format from URL inputs

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 using ConvNets and Data Augmentation"

Saranga Kingkor Mahanta, Shubham Jain, Darsh Kaushik, Koushik Guha
*Paper presented 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
*Paper Published in **Computación y Sistemas**: Vol 25, No 2 (2021)*

Other Key Projects

Forgery Detection and Image Retrieval using Robust Image Hashes *Oct. 2021 - Present*

BACHELOR'S THESIS PROJECT

- Working under the supervision of Dr. Madhumita Paul
- Using Variational Autoencoders to generate robust image hashes of images
- Forgery detection by computing similarity of generated hash and received hash
- Exploiting hashes for efficient Image Retrieval

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

SMART INDIA HACKATHON 2020 *Github link*

- 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 at 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 (SIH) 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 SARIMA, 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
Software and Tools	Git, LaTeX, gRPC
Libraries & Frameworks	PyTorch, TensorFlow, Flask, NumPy, Pandas, Librosa, Scikit-learn
Domain Interests	Artificial Intelligence, Deep Learning, Computer Vision, NLP, Generative Learning

Key Courses Undertaken

Computer Science & Engineering: Machine Learning , Neural Networks and Fuzzy Logic, Data Structures and Algorithms, Computer Networking, C Programming, Signals and Systems, Control Systems, Microprocessors, Digital Signal Processing, Machine Translation, Deep learning*, Generative Adversarial Networks *

Mathematics: Linear Algebra, Differential and Integral Calculus, Probability and Statistics, Random Processes

*Specialization offered by Deeplearning.ai on Coursera