

Shruti Jha

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EDUCATION

Fr. Conceicao Rodrigues Institute of Technology

June 2025

Bachelor of Engineering in Computer Science

Current CGPA: 9.59

TECHNICAL SKILLS

Languages: C, C++, Python, R Programming, HTML, CSS, JavaScript, MySQL, NoSQL, PHP, React

Tools: Git/GitHub, Unix Shell, VS Code, IntelliJ IDEA, Firebase, phpMyAdmin, PowerBI, Google Colab

INTERNSHIP

Research Assistant | *Research Skills, Python, Pandas, TensorFlow, PyTorch*

December 2023-June 2024

- Assisted Prof. Chaitanya V. Mahamuni from University of Mumbai in conducting research on Natural Language Processing (NLP) and Topic Modeling, contributing to data collection, analysis, and manuscript writing.
- Co-authored and published "Topic Modeling for Identifying Emerging Trends on Instagram using LDA and NMF" in IEEE Scopus indexed journal.
- Published "Natural Language Processing: A Literature Survey of Approaches, Applications, Current Trends, and Future Directions" in Science Direct journal.
- Conducted research in Natural Language Processing (NLP) and Topic Modeling, focusing on extracting emerging trends from Instagram data.
- Implemented Latent Dirichlet Allocation (LDA) and Non-Negative Matrix Factorization (NMF) for topic modeling, analyzing social media text data.
- Developed Python-based NLP pipelines, leveraging libraries such as NLTK, spaCy, and Gensim for text processing and analysis.

PROJECTS

ECG Report Analysis Using Generative AI | *Python, Generative AI*

January 2025-Present

- Developing a tool to analyze and understand ECG reports and generate stage-wise results based on it
- Making use of generative AI to provide customized results for different individuals based on their reports.
- Using the VGG model for image identification involves leveraging a pretrained VGG network Using the VGG model for image identification involves leveraging a pretrained VGG network VGG16 for feature extraction and classification using TensorFlow.

FoodMO | *React, Google cloud API, Google lens API, Python*

September 2023-May 2024

- Developed a nutrient analysis application using Optical Character Recognition(OCR)
- Used OCR to extract text from image and return analysis of food item whether it is safe for consumption and recommend healthier alternatives

Medical Insurance Premium Prediction with Machine Learning | *ML, ANN, Keras, Tensorflow*

February 2024

- Performed data cleaning, feature engineering and visualization
- Built, trained and tested an artificial neural network model in Keras and Tensorflow
- Predicted the health insurance cost incurred by Individuals based on multiple factors using ML and ANN

Reviews Sentiment Analysis Using NLP | *Python, Machine Learning, NLP*

January 2024

- Cleaned and pre-processed dataset of Amazon Echo Reviews for extracting information and visualized the data using matplotlib package
- Implemented python programming for Natural Language Processing
- Created a pipeline to remove stop-words, perform tokenization and padding
- Trained and tested Naive Bayes Classifier Models

English/French Translator using Long Short Term Memory Networks <i>ML, AI, LSTM</i>	February 2024
<ul style="list-style-type: none"> Cleaned, pre-processed data and visualized using graphs and word clouds. Built, trained RNN, LSTM based model and assessed its performance to translate sentence from English to French 	
Generating New Recipes using GPT-2 <i>Python, ML, NLP, GPT-2, HuggingFace</i>	January 2024
<ul style="list-style-type: none"> Cleaned and pre-processed text data comprising recipes for modelling, and split it into a training and validation set Used HuggingFace library to fine-tune a deep, generative model, and specifically trained such a model on Google Colab Created a pipeline to remove stop-words, perform tokenization and padding Fine-tuned a large-scale model like GPT-2 to effectively create realistic and unique recipes from lists of ingredients based on the dataset 	
Data Analysis Using Pyspark <i>Python, Google Colab, pySpark SQL</i>	December 2023
<ul style="list-style-type: none"> Applied different queries to the dataset to extract useful Information Visualize the extracted information using matplotlib package 	
Web Scraping <i>Python, Pycharm, Microsoft Excel</i>	March 2023
<ul style="list-style-type: none"> Scraped the IMDb website into an excel file to provide an easy approach to access and read data 	
Monty Hall Simulation <i>HTML, CSS, JavaScript, PHP</i>	February 2023
<ul style="list-style-type: none"> Created a Monty Hall Problem Simulation Used to obtain statistical information from classmates and analyze patterns in selection and probability of choosing the correct answer 	

PUBLICATIONS

- **Shruti Jha**, Ishmeen Garewal, Prof. Chaitanya V Mahamuni. “*Natural Language Processing: A Literature Survey of Approaches, Applications, Current Trends, and Future Directions*”,2024 Asian Conference on Intelligent Technologies (ACOIT), KOLAR, India, 2024, pp. 1-12
DOI:10.1109/ACOIT62457.2024.10941573
- **Shruti Jha**, Ishmeen Garewal, Lancy Athisaya, Leona Alphonso, Prof. Bhakti Aher. “*FoodMO: A Food Nutrient Analysis Application Using Optical Character Recognition and Machine Learning*”,ICT Systems and Sustainability. ICT4SD 2024. Lecture Notes in Networks and Systems, vol 1159. Springer, Singapore. DOI:https://doi.org/10.1007/978-981-97-8526-1_47
- **Ishmeen Garewal**, Shruti Jha, Prashansha Erande, Nimisha Gharat, Prof. Chaitanya V Mahamuni. “*Blockchain-Based Smart Contracts for Decentralized Vehicle-to-Grid (V2G) Load Management*”, 2024 4th International Conference on Ubiquitous Computing and Intelligent Information Systems (ICUIS), Gobichettipalayam, India, 2024, pp. 1516-1525.
DOI:10.1109/ICUIS64676.2024.10866137.

EXPERIENCE

GDSC Club <i>Creative Head</i>	September 2023 – July 2024
Maintained and organized event flyers, posters, digital content, certificates and led a team of two students to create content for the Google events.	
NSS Club <i>Volunteer</i>	August 2022 – July 2024
University club under ministry of sports and youth affairs centered around social work	
Debate Club <i>Member</i>	August 2022 – Present
Organized and participated in inter-department debates on various topics	

INTERESTS AND HOBBIES

Reading, Taking Long evening walks, Dancing, Trekking, Illustrating, Drawing

LANGUAGES KNOWN

English, German(Elementary proficiency), Hindi, Marathi