DEEP GANDHI

✉ thisisdeepgandhi@gmail.com 🌐 deep1401.github.io ⭘ deep1401 in deep1401

EDUCATION

Dwarkadas J. Sanghvi College of Engineering (University of Mumbai) | *2018 - 2022 (Expected)*
B.E. in Computer Engineering | Overall GPA: 9.48/10

PROFESSIONAL EXPERIENCE

JPMorgan Chase & Co. | June 2021 - Aug 2021
Summer Intern | *Internship*

· Worked with the ACM Team in the Investment Banking division and automated the artifact validation check for every release using Python and pandas.
· Designed a system for automation of evidence store creation for files to be attached to the SNOW ticket reducing the process time from 1.5 hours to 10 mins.

Dwarkadas J. Sanghvi College of Engineering | Jan 2021 - June 2021
Undergraduate Research Assistant | *Advisor: Dr.Ramchandra Mangrulkar*

· Made a project dealing with the application of Federated Learning for highly sensitive medical data.
· Worked on a research project to identify Spear Phishing using low computational NLP approaches.
· Published 2 chapters for CRC Press in the domains of Federated Learning and Natural Language Processing.

Margosatree Technologies | Jan 2020 - Jan 2021
Freelance Python Developer | *Part Time*

· Developed dashboard for a Syscon Automation to display dynamic data coming from the manufacturing process and providing useful insights on the same which was later used on a large scale internally within the company
· Worked on a diverse array of client and internal projects like clustering Jupyter clients and dynamic PDF report generation of every quarter using Selenium and Pandas.

Levyne | Feb 2020 - May 2020
Machine Learning Engineer | *Internship*

· Built the complete data analysis platform for the marketing team which performed RFM analysis on dynamic data.
· Responsible for building a chatbot using NLTK for customer interaction.
· Developed a recommendation system for the platform using fast.ai and PyTorch.

Feople Org | Jan 2019 - Sept 2019
Data Analyst | *Part Time*

· Acted as the tech lead and was personally responsible for the development of a recommender system and a dynamic pricing strategy of a restaurant client using fast.ai, pandas and surpriselib.

PROJECTS

A Federated Approach to Hate Speech Detection | *Guide: Zeerak Talat*

· This project is an extension of Fortuna et al. to identify hate speech representations better using Federated Learning.
· Currently working on extensive analysis of every dataset to mitigate the learned biases in the Federated models.

FedHealth | *Guide: Prof. Lynette D'Mello*

· Final year project which uses FL to train models on EHR data stored on patient devices on a Blockchain network.
· Creating representations for personalized prescriptions based on user reviews using Med-BERT embeddings.

A Federated Approach to Predict Emojis in Hindi Tweets   *Guide: Zeerak Talat*

· Cost sensitive learning and SMOTE for imbalanced emoji data using FedProx for training.
· Curating a dataset of around 200k tweets to predict emojis for resource constrained languages.
· Under review at ACL ARR 2021.

IndicFed: A Federated Approach for Sentiment Analysis in Indic Languages   *Guide: Prof. Sudhir Bagul*

· Training sentiment analysis models for Indic languages using Federated Learning to solve the data scarcity issue.
· Outperforming server-trained counterpart and having a similar performance to models having $10x$ more parameters.
· Under review at ICON 2021.

RESEARCH & PUBLICATIONS

[1] **Deep Gandhi**, Govind Thakur, Pranit Bari, and Khushali Deulkar, "Application of Deep Learning in Cartography Using UNet and Generative Adversarial Network," in *Design of Intelligent Applications Using Machine Learning and Deep Learning Techniques*, pp. 257–271, Chapman and Hall/CRC, 2021.

[2] Jash Mehta, **Deep Gandhi**, Govind Thakur, and Pratik Kanani, "Music Genre Classification using Transfer Learning on log-based MEL Spectrogram," in *2021 5th International Conference on Computing Methodologies and Communication (ICCMC)*, pp. 1101–1107, IEEE, 2021.

[3] **Deep Gandhi**, Jash Mehta, Nemil Shah, and Dr.Ramchandra Mangrulkar, "Federated Learning for Brain Tumor Segmentation on the Cloud," in *Cloud Computing Technologies for Smart Agriculture and Healthcare*, pp. 261–278, Chapman and Hall/CRC, 2021.

[4] **Deep Gandhi**, Jash Mehta, and Dr.Ramchandra Mangrulkar, "Detection of Spear Phishing using Natural Language Processing," in *Cyber Security Threats and Challenges facing Human Life*, ch. 9, Chapman and Hall/CRC, *Accepted*.

[5] **Deep Gandhi***, Jash Mehta*, and Pranit Bari, "Ablation Analysis of Seq2Seq Models and Vanilla Transformers for Spanish to English Translation," in *Proceedings of the 3rd International Conference on Advances in Distributed Computing and Machine Learning*, Springer Nature, Accepted.

TECHNICAL STRENGTHS

Programming Languages:	Python, R, Javascript, C, C++
Libraries/Frameworks:	PyTorch, fast.ai, Opacus, PySyft, Flower,Flask, FastAPI, Node.js, Express.js
Tools:	Git, Jupyter, Docker, Bash, Heroku, AWS, Azure, LaTeX
Databases:	SQL, MongoDB, Redis, Cloud Databases

CO-CURRICULAR ACTIVITIES

Teaching Assistant for an undergrad level Deep Learning course UMLSC, sponsored by **Google AI Research India**

Part of **Shalizi–Stats reading group** led by Swapneel Mehta which focuses on the stats book by *Cosma Shalizi*

Presented various paper reviews as a part of the **Unicode Research Group** run by Swapneel Mehta on Probabilistic Programming and currently working on on identifying the causal effects that non-expert mentors have on the careers of mentee students in an educational institution.

Built a predictive model for automotive component part failure for a **Big4 consultancy firm** under *Dr.Kriti Srivasatava*.

ACHIEVEMENTS

Awarded Inspire Scholarship, **Top 1%** candidates in Higher Secondary Certificate (12th Grade), 2018

Top 3 at *JPMorgan Chase Code for Good 2020* out of 75 teams

Top 10 at *HERE Maps' Smart Mobility Hackathon 2019* out of 64 teams