

# DEEP GANDHI

✉ [thisisdeepgandhi@gmail.com](mailto:thisisdeepgandhi@gmail.com) 🌐 [deep1401.github.io](https://deep1401.github.io) 🔊 [deep1401](#) 🌐 [deep1401](#)

## EDUCATION

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**Dwarkadas J. Sanghvi College of Engineering**  
(Mumbai University)  
BE in Computer Engineering

2018 - 2022 (Expected)  
Overall GPA: 9.48/10

## PROFESSIONAL EXPERIENCE

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**JPMorgan Chase & Co.**

Summer Intern

June 2021 - Aug 2021

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**

Undergraduate Research Assistant

Jan 2021 - June 2021

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**

Freelance Python Developer

Jan 2020 - Jan 2021

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**

Machine Learning Engineer

Feb 2020 - May 2020

Internship

- Built the complete data analysis platform using pandas, numpy, scipy 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**

Data Analyst

Jan 2019 - Sept 2019

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

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**A Federated Approach to Hate Speech Detection**

Guide: Zeerak Talat

- Ongoing research project which is an extension to the work done by [Fortuna et al](#) to identify real world representations of the overt hate speech data from different non-iid datasets using Federated Learning.
- The experiments consider the base models FNet, AWD-LSTM, DistilBERT, ALBERT, etc.
- The further work includes simulation graphical representations of the text in the datasets used in [Fortuna et al](#).

## FedHealth

Guide: [Prof. Lynette D'Mello](#)

- Final year project which uses Federated Learning to train models on highly sensitive medical data stored on patient devices on a Blockchain network.
- Creating representations for personalized prescriptions based on user reviews using MedBERT.

## Fedmoji: A Federated Approach to Predict Emojis in Noisy Hindi Tweets

Guide: [Zeera Talat](#)

- Cost sensitive learning and SMOTE for imbalanced emoji data using FedProx for training.
- Mining a dataset of around 200k tweets to predict emojis for resource constrained languages.

## Low Resource Language Processing and Opinion Mining

Guide: [Prof. Sudhir Bagul](#)

- Applying the ULMFiT method to low resource Indic languages and comparing performance with mBERT, XLM-R, hindiBERT, etc.
- Currently working on the interpretability of models using Layer Integrated Gradients.

## RESEARCH & PUBLICATIONS

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- [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 Cloud," in *Cloud Computing Technologies for Smart Agriculture and Healthcare*, ch. 17, Chapman and Hall/CRC, *Accepted*.
- [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*.

## TECHNICAL STRENGTHS

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<b>Programming Languages:</b>	Python, R, Javascript, C, C++
<b>Libraries/Frameworks:</b>	PyTorch, fast.ai, Opacus, PySyft, Flower, Flask, FastAPI, Node.js, Express.js
<b>Tools:</b>	Git, Jupyter, Docker, Bash, Heroku, AWS, Azure, L <sup>A</sup> T <sub>E</sub> X
<b>Databases:</b>	SQL, MongoDB, Redis, Cloud Databases

## CO-CURRICULAR ACTIVITIES

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**Teaching Assistant** for an undergrad level Deep Learning Course [UMLSC](#), supported by **Google AI Research India**  
Part of **Shalizi–Stats reading group** led by [Swapneel Mehta](#) which focuses on the stats book by [Cosma Shalizi](#) and Bayesian Statistics taught by [Fenil Doshi](#)

Presented various paper reviews as a part of the [Unicode Research Group](#) and currently working 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

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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*