

# Vibha Masti

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## EDUCATION

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### PES University

*BTech in Computer Science and Engineering*

Bangalore, India

2019-2023

- Department Rank: 2/800
- CGPA: 9.85/10.00
- Specialization in Machine Learning and Data Science (MIDS)
- 6-time recipient of Prof. CNR Rao Scholarship for being among the top 2%

## EXPERIENCE

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### SWE Intern

*Apple*

Jan 2023 – June 2023

Bangalore, India

- Working in the Cellular Systems Analysis team
- Applying ML and NLP techniques to analyze large amounts of data

### Teaching Assistant

*PES University*

Jan 2023 – June 2023

Bangalore, India

- UE20CS344 – Network Analysis and Mining under Prof. Bhaskarjyoti Das
- Created graph ML coding assignments
- Grade assignments and final projects of 180+ students

### Teaching Assistant

*PES University*

June 2022 – Dec 2022

Bangalore, India

- UE20CS312 – Data Analytics under Dr. Gowri Srinivasa
- Redesigned and revamped official course teaching material (lecture slides, notes, recorded lecture summaries)
- Designed worksheets and assignments with interesting parallels to real research data (neurobiology, road accidents)

### Summer Analyst

*Goldman Sachs*

June 2022 – July 2022

Bangalore, India

- Deprecated an old relational data store storing mathematical constraints/inequalities and moved it to a NoSQL store
- Researched and designed the NoSQL data models to store the constraints efficiently
- Reduced the time taken to fetch the constraints by  $\sim 85\%$
- Tech stack: Python FastAPI, React, MongoDB, SQL

### Data Engineering Intern

*Netradyne*

May 2021 – July 2021

Bangalore, India

- Created an end-to-end tool to visualize GPS data on an interactive map with search filters
- Calculated cumulative statistics on GPS data at different levels of aggregation and for different geographical areas
- Developed a visualization tool used to attract potential clients
- Tech stack: React, Flask, MongoDB, PostgreSQL, deck.gl, OSM, OSRM APIs

### Software Development Intern

*Vogo Automotive Scooter Rentals*

May 2020 – June 2020

Bangalore, India

- Facilitated the transition to a microservices architecture by containerizing backend repositories using Docker
- Developed a web portal to reset passwords with OTPs
- Implemented algorithm to track changes in json-like nested attributes to make finding incremental changes easier
- Tech stack: Python, Django, DjangoREST

## PAPERS AND PUBLICATIONS

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### **GraphCoReg: Co-Training for Regression on Temporal Graphs**

- *Authors: Harshith Mohan Kumar, Vishruth Veerendranath, **Vibha Masti**, Divya Shekar, Bhaskarjyothi Das*
- Presented at **ECML-PKDD 2022** International Workshop on Mining and Learning with Graphs
- Awarded **Student Best Paper Award** and selected for spotlight presentation

### **Multivariate Covid-19 Forecasting with Vaccinations as a factor: the case of India and USA**

- *Authors: **Vibha Masti**, Vishruth Veerendranath, Harshith Mohan Kumar*
- Presented at the **ICML 2022** Workshop on Healthcare AI and COVID-19
- Published at the **IEEE Region 10 Symposium (TENSYP) 2022**

### **C3PO: A Lightweight Copying Mechanism for Translating Pseudocode to Code**

- *Authors: Vishruth Veerendranath, **Vibha Masti**, Prajwal Anagani, Mamatha HR*
- Accepted at **AACL-IJCNLP 2022** Student Research Workshop (SRW)

### **A Comparative Study of Algorithms for Intelligent Traffic Signal Control**

- *Authors: Hrishit Chaudhuri, **Vibha Masti**, Vishruth Veerendranath, S Natarajan*
- Published at **ICMLAS 2021**

## PROJECTS

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### **ScripTONEs** | *Music IR, NLP*

- Capstone Project Advisor: Dr. Gowri Srinivasa
- Explore deep generative models to generate music conditioned to the sentiment and mood of a film scene script

### **Sentiment Analysis with Streaming Spark** | *Big Data*

- Used spark ML to classify streaming data (tweets) into two emotion categories
- Preprocessed streaming data using multiple stages in a pipeline and compared the accuracies of different models on the data (Logistic Regression, Naive Bayes, K-means clustering)

### **Unix diff Command Clone** | *C, Dynamic Programming*

- A program written in C that mimics the working of the Unix diff command (compares files line-by-line)
- Implemented by calculating Levenshtein Distance and Dynamic Programming

## TECHNICAL SKILLS

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**Languages:** Python (advanced), C/C++, Java, R, SQL, MongoDB, JavaScript, HTML/CSS

**ML/Stats:** PyTorch, PyTorch Geometric, Keras, Tensorflow, pandas, NumPy, Matplotlib, scikit-learn, spark-ML, spark-nlp, statsmodels, darts

**Big Data:** Hadoop, Map-reduce, Kafka, Spark, HBase

**Web/App Dev:** Django, MERN Stack, Flask, HTML/CSS, React, Redux, Flutter, React Native, Nodejs, Express

**Developer Tools:** Git, Docker, Latex

## HONOURS AND ACADEMIC ACTIVITIES

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- Six-time recipient of Prof. CNR Rao Scholarship for being among the top 2% in the department
- Awarded the Andy Grove Scholarship for Children of Intel Employees by Scholarship Hub and Intel Technology
- Volunteer for the ISMIR 2022 Conference - helping with organization and planning
- Voluntarily created and maintained a repository of learning resources and class notes for all courses in every semester, which has been visited over 38,000 times by peers and juniors
- Mentored research projects and organized hackathons as a member of PES Innovation Lab (Formerly Microsoft Innovation Lab)

## EXTRA-CURRICULARS

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- South Indian Classical (Carnatic) instrument Saraswathi Veena
- International Yoga Alliance 200-Hour Registered Yoga Teacher (200 RYT)
- Photography