

NIHAR SANDA

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EDUCATION

Northeastern University - Khoury College of Computer Sciences

2023 - 2025 (Expected)

MS in Computer Science

Boston, MA, USA

Indian Institute of Information Technology, Dharwad

2019 - 2023

Bachelor of Technology, Computer Science and Engineering

Karnataka, India

SKILLS

Languages: Python, R, Java, HTML, CSS, C++, C, JavaScript, PHP

Frameworks: Node, React, Flask, Django, R Shiny, Flutter

Database: SQLite, PostgreSQL, MySQL, NoSQL, MongoDB, DynamoDB, Redis

Tools: REST APIs, Docker, Jenkins, CI/CD, AWS, GCP, Kubernetes

EXPERIENCE

Indian Institute of Technology, Bombay

May 2023 – Present

Research Associate

Mumbai, India

- Developed an innovative tutoring system, "Affect Aware Tutoring System Using Video Bots", which includes a learning management system capturing click-stream log data and facial data to predict the **user's affect state** in real-time.
- Developed a comprehensive Learning Management System (LMS) web application using MERN stack, complemented by the integration of a RESTful API built with Flask to deploy and manage a Deep Learning Computer Vision model.

Patenti Technology Solutions

Jan 2023 - May 2023

Software Engineering Intern

Bengaluru, India

- Created a comprehensive IP infringement search tool by **utilizing OCR models** and employing **Django's Model-View-Template (MVT) architecture** to develop the web application with **MySQL database**.
- Deployed and maintained multiple **production and testing environments** on **AWS EC2, S3, and Redis**, utilizing **Github Actions** for **CI/CD automation**.
- Developed numerous backend modules and executed a **pipeline with LLMs for topic modeling and scientific term retrieval** in patent documents, **incorporating APIs** and **implementing RateLimiting** for seamless integration.

Camplus App, Varopro Private Limited

Feb 2021 - Jan 2023

Founder and CEO

Mumbai, India

- Led a team of more than **10 people** in the development of a **campus management application** catering to a user base **800 individuals**, receiving **grants and funding** of more than **\$13000**.
- The startup, was **incubated** by **New Gen IEDC IIIT Allahabad, Government of India**, under the Startup India initiative, **secured funding** and **garnered significant media attention**.
- Engineered the application's **multi-tenant backend** leveraging a robust tech stack including **AWS Lambda, DynamoDB, S3, SES, API Gateway**, and **MEN (MongoDB, Express, Node) stack**.

PROJECTS

PEcAn Project API Package Creation and Forecasting Dashboards | *R, APIs, Backend, Shiny*

Nov 2022

- Engineering the **APIs for the various PEcAn packages of data assimilation and meta-analysis** in the R language, contributing to its creation and enhancement.
- Enhanced the **authentication of the existing REST APIs** by incorporating robust **API Key authentication** and implementing efficient **rate-limiting features**.
- Leveraging **R Shiny** to create a **robust and user-friendly dashboard**, empowering users to generate dynamic **SDA (State Data Assimilation) and forecasting graphs** for various researchers around the world.

Covid-19 Mortality Prediction | *Data Visualization, Machine Learning, Deep Learning*

May 2022

- Data analysis and processing:** Proficient in **cleaning, exploring, and transforming private hospital data** with **1 lakh data points** to better understand and extract information using **Pandas** and **Python**
- Data Imbalance Mitigation:** Employed techniques such as SMOTE and undersampling to effectively tackle the challenge of imbalanced data.
- Mortality Prediction:** Implemented **state-of-the-art machine learning models** to predict **COVID-19 patient mortality**, utilizing an ensemble approach and achieving an impressive **accuracy of 93%**

ACHIEVEMENTS

- Lead a team to the Grand Finals at Smart India Hackathon 2022 and also won many National Level hackathons
- 2 times Google Summer of Code (2022, 2023) Recipient PEcAn Project
- Open Source Contributor for Rucio(CERN), CircuitVerse, PEcAn Project with many accepted PRs.
- Founder and President at Velocity, Web Development Club of IIIT Dharwad • Captain of the University Tennis Team.

PUBLICATIONS

- An Effective Framework for the Prediction of Protein Folds using Natural Language Processing and Evolutionary Features** - IEEE/ACM Transactions on Computational Biology and Bioinformatics
- Interestingness from COVID-19 Data: Ontology and Transformer-Based Methods** - Proceedings in ACL Anthology
- Ontology-Based Semantic Data Interestingness Using BERT Models** - Taylor and Francis' Connection Science Journal