

NIHAR SANDA

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Education

Indian Institute of Information Technology, Dharwad

Aug 2019 - May 2023

Bachelor of Technology, Computer Science and Engineering

Karnataka, India

Experience

Camplus App, Varopro Private Limited

February 2021 - Present

Founder

Mumbai, India

- Headed the team in building the MVP which is being used and tested by more than 500 students currently.
- Startup is incubated by New Gen IEDC IIIT Allahabad, Government of India and also under Startup India.
- Developed the backend of the application using AWS Lambda, DynamoDB, S3, SES, API Gateway and MEN stack.

Google Summer of Code, PEcAn Project

June 2022 – November 2022

Student Intern

Mumbai, India

- Contributed to the creation of new R language's API for PEcAn packages of data assimilation and meta-analysis.
- Improved the authentication of the existing REST APIs by adding API Key and rate-limiting features.
- Collaborated with several scholars from across the world to comprehend the functionality and use of the PEcAn API

Indian Institute of Technology, Bombay

May 2022 – November 2022

Research Intern

Mumbai, India

- Worked on a novel idea in the field of education technology, named "Affect Aware tutoring system"
- Built a learning management system that collects the click-stream log data of the student, simultaneously captures video and then predicts the user's affect state for feedback
- Developed an optimized transformer-based deep learning model to predict the user's affect state. The model was trained on the huge DAiSEE dataset for approximately 300 hours.

Projects

Camplus App | *Flutter, AWS Lambda, S3, DynamoDB, API Gateway, Python*

February 2021

- Tracks the various systems on the campus such as the Mess System, Delivery System, Canteen, Gate Tracker etc.
- Developed various modules in the backend using the MVC architecture in MEN stack, AWS Lambda and API Gateway.
- Connecting the REST APIs with the Flutter UI and integrating secure authentication of the Application.

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

May 2022

- Pre-processing raw data from a private hospital in Karnataka with care while keeping essential features.
- Using SMOTE and undersampling techniques to address the issue of data imbalance.
- Implementation of different state-of-the-art machine learning models to predict the mortality of COVID-19 patients.
- Using the ML models to build an ensemble model and a thorough comparison and analysis of all the results inferred.

Protein Fold Recognition (On-going) | *NLP, Transformers, Bio-Informatics*

August 2022

- Enhanced Protein Fold Recognition for Low Similarity Datasets of protein sequences and its classes
- Feature Extraction of the data using PSSM and HMM profiles of the protein sequence and combining them with Sequence Graph Transform (SGT) and Bi-gram features.
- Implemented transformer based models like BERT to make the model more robust.

Technical Skills

Languages: Python, R, C, C++ HTML/CSS, JavaScript, SQL, Shell Scripting

Tools: Machine Learning, DL, NLP, EDA, MERN, Flask, Django, AWS, Flutter

Publications

Sqr: High Performance Secure Qr System to Filter Against Malicious Qr Codes Using Deep Learning Techniques

- Developed a high-performance system for detecting malicious and benign QR codes.
- Paper currently under review in Expert Systems with Applications Journal.

Affect Aware Tutoring System | *Data Visualization, Machine Learning, Deep Learning*

- Developed a novel idea of "Affect Aware Tutor System".
- Paper is documented and to be submitted in IEEE Transactions in Education Technology.

Interestingness from COVID-19 Data: Ontology and Transformer-Based Methods

- Identify interesting patterns using ontology-based mining techniques and process them with transformer models for identifying the interesting rules from the mined corpora.
- Paper is accepted for publication at ICON 2022, proceedings in ACL Anthology

Leadership / Extracurricular

- Grand Finalist at Smart India Hackathon 2022
- Top 6 globally at International Accelerator Program, Austin, Texas
- Founder and President of Velocity, Web and App Dev Club of IIIT Dharwad
- Senior Mentor of Data Science and Artificial Intelligence (DSAI) Society
- Web Lead at IEEE Bangalore Chapter and Postman Student Leader.