SARTHAK AGASE

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PROFILE

Motivated IT Engineer with hands-on experience in building scalable full-stack web applications. Strong problem solving skills with ability to quickly learn new technologies, looking for opportunities in Machine Learning, Gen AI, Data Science, Fullstack development.

EDUCATION

Vishwakarma Institute of Information Technology   Pune, Maharashtra
Bachelor of Technology in Information Technology | CGPA: 8.92   *Dec. 2021 – May 2025*

Rajarshi Shahu Junior Science College   Latur, Maharashtra
HSC Board | Percentage: 96%   *Jun. 2019 – Feb. 2021*

Kripa Sadan Convent High School   Latur, Maharashtra
SSC Board | Percentage: 95.20%   *Jun. 2007 – Mar. 2019*

EXPERIENCE

Raja Software Labs, Pune   July 2024 – Ongoing
Intern — Software Engineer

- Worked on a IoT-based full-stack web application using **Next.js (React), gRPC, Ably, GraphQL, Cypress** and **Jest**.
- **Completed Jest and Cypress configuration setup** for the application to add unit and end-to-end testing.
- **Redesigned Next.js navigation architecture**, optimized the site and **reduced the initial load time by 50%** enhancing user experience.
- **Created dynamic data visualizations** using **Visx** and **Chakra UI**, including tooltips, reference lines, and managed a separate UI repository for complex components.
- **Delivered many client requirements on time**, ensured clean, maintained code through active code reviews.

ACHIEVEMENTS

Research Paper Published in IEEE ICCUBEA 2024   Link
Paper Title: "Voice Auth: Audio Verification with Deep-Learning"

Designed and implemented two methods for distinguishing between real and deepfake audio, leveraging advanced audio feature extraction and deep learning techniques.

- Utilized Mel-Frequency Spectrograms with a custom **CNN model** with ReLU activation function and softmax output layer, achieving **96.48%** accuracy on the **ASVspoof 2019 dataset**.
- Extracted **MFCC** and other audio features using **Librosa**, applying classifiers like **MLP, Random Forest**, and **XGBoost**, achieving **98.72%** accuracy with Emsemble Learning.

SKILLS AND PROFICIENCIES

Languages: Python, C/C++, SQL (MySQL, SQLite3), JavaScript, TypeScript, HTML, CSS, R

Js Frameworks: NextJs, React, React-Native, Ember, Chakra UI, Cypress, Jest, NodeJs, Express, gRPC

Python Libraries: Django, Flask, Pandas, NumPy, Matplotlib, NLTK, FastAPI, Streamlit

AI-ML Skills: TensorFlow, Keras, Scikit-Learn

Development Tools: Git/GitHub, Jira, AWS, Postman, Swagger, MySQL Workbench, VS Code

Projects

Plant Disease Prediction | *Python, Streamlit*   GitHub

- Developed a crop disease prediction model using custom **CNN** and **VGG16** with **PlantVillage dataset**.
- Implemented transfer learning with **VGG16** and optimized model performance using **Adam optimizer** and **batch normalization**.
- Achieved high accuracy on multiple crops: Corn (98.48%), Potato (98.52%), Pepper Bell (99.53%), Tomato (99.5%).

IntelliCart | *ReactJs, FastAPI, Python, HTML, CSS, JavaScript*   GitHub

- Built a market-basket optimization app with **ReactJS** frontend and **FastAPI** backend.
- Utilized **Apriori, Elcat** and **FP-Growth** ML algorithms for intelligent product recommendations.
- Hosted temporarily on **AWS EC2** with interactive UI.

AI Speech Emotion Detection | *Python*   GitHub

- Utilized **Open-AI Whisper Model** for Speech-to-Text Transcription.
- Applied NLP techniques and a **Bag-Of-Words** approach for emotion extraction.
- Employed various ML algorithms for emotion categorization.(**Neural Network, Gradient Boosting**, etc)

Quiz Application | *Django, SQLite3, JavaScript, Python, HTML, CSS Bootstrap*   GitHub

- Developed **Django Quiz Application** with admin dashboard for quiz management.
- Utilized **SQLite3** database for ques-ans and marks storage.
- Built user-friendly UI including timers using **HTML, CSS Bootstrap & JavaScript**.
- Integrated **Data Analysis** and **Visualization** features using **Matplotlib**.

Additional Information

Activities:

- Participated in social initiatives organized by NSS such as awareness camps, blood donation drives.
- Served as a member of the organizing committee for the Gandharva Fest.
- Engaged in various hackathons and coding events with active participation.

Hobbies: Trekking, Sports (Cricket, Basketball, Chess)

Interests: Finances, Cryptocurrency, Geo-Politics

Spoken Languages: English, Hindi, Marathi