RAHUL BALU PARANDE

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EDUCATION

Syracuse University | Master of Science in Computer and Information Science | CGPA: 3.8/4 **Aug 2022 – May 2024**

- Coursework: Analysis of Algorithms, Social Media and Data Mining, Machine Learning, Object Oriented Design, Database Management System, Applied Natural Language Processing.

University of Mumbai | Bachelor in Computer Engineering | CGPA: 8.9/10 **Aug 2018 - May 2022**

- Coursework: Data Structures and Algorithms, Operating Systems, Artificial Intelligence, Cloud Computing.

TECHNICAL SKILLS

- **Programming**: Python, Java, C/C++, Flask, Haskell, JavaScript.
- **Databases**: MySQL, MSSQL, SQLite, PostgreSQL, NoSQL, MongoDB.
- **Libraries**: Matplotlib, Scikit-Learn, NLTK, XGBoost, OpenCV, TensorFlow, PyTorch, Scrapy, Selenium.
- **Frameworks**: React.js, Angular.js, Node.js, Django, REST.
- **Tools**: Postman, Docker, Kubernetes, Git, AWS, Jira, Flutter, Jenkins, PowerBI, Tableau

PROFESSIONAL EXPERIENCE

Nexis Technology lab | Software Developer | Syracuse, NY, USA **Aug 2023 – May 2024**

- Built RESTful APIs with FastAPI for real-time travel data access, incorporating advanced queries and OAuth2 authentication for security while also implementing advanced queries for enhanced data retrieval.
- Integrated OAuth2 authentication into the API to ensure secure access to sensitive travel data, leveraging an authorization server setup for token issuance and user authentication.
- Automated data extraction from diverse sources with BeautifulSoup, resulting in 30% reduction in manual data collection time and streamlined data preprocessing with Principal Component Analysis (PCA).
- Implemented collaborative workflows utilizing JIRA for task management and Git for version control, maintaining efficient teamwork and ensuring tracking and management of project changes.

Research Cell, Shah and Anchor | Machine Learning Intern | Mumbai, India **Jan 2022 – May 2022**

- Developed and fine-tuned convolutional neural network (CNN) models using transfer learning techniques to classify guava plant diseases with 92% accuracy.
- Introduced ensemble learning approach by combining predictions from multiple CNN models, resulting in additional 6% improvement in accuracy.
- Applied automated monitoring and logging solutions into deployment pipeline using Jenkins for CI/CD pipelining.
- Built health monitoring for deployed machine learning model using Elasticsearch, ensuring continuous availability and functionality, with automated alerts for timely response to failures or downtime.

Art of Living | Software Engineering Intern | Mumbai, India **Aug 2021 - Jan 2022**

- Optimized image loading by implementing compression and lazy loading, resulting in 30% reduction in load times.
- Utilized Firebase Realtime Database, resulting in a 30% improvement in data retrieval speed and 20% reduction in server response time for real-time synchronization between app and server.
- Implemented Firebase Cloud Messaging (FCM) for push notifications, resulting in 40% increase in user engagement by keeping users informed about updates on mapped water sources.

PROJECTS

Task Manager | Java, AngularJS, Spring Boot, Postman, MongoDB **Jan 2024 – Mar 2024**

- Built a task management application inspired by Trello, utilizing Java, Spring Boot, and MongoDB for backend development, and AngularJS for the frontend, demonstrating full-stack capabilities.
- Deployed RESTful API architecture and applied design patterns including MVC (Model-View-Controller), Finite State Machine, Builder, and Singleton to establish a scalable and maintainable codebase.

Used Textbooks Management System | Java, SpringBoot, Postman, MySQL **Aug 2023 – Dec 2023**

- Integrated RESTful API endpoints with JPA-based data access layer to enable communication between front-end and back-end components of application.
- Utilized Spring MVC framework to create back-end services, designing controllers to handle HTTP requests and services to execute business logic.

Tweet Emotion Analysis System | Python, Matplotlib, Scikit-Learn, TensorFlow **Jan 2023 – April 2023**

- Performed extensive analysis of sentiment and emotion on more than 10,000 COVID-19-related tweets, using **LDA** topic modeling and DistilRoBERTa achieving accuracy of 87%.
- Utilized visualization tools such as word clouds and heat maps to uncover patterns in emotional content of tweets.

Online Voting Poll Platform | NodeJS, ReactJS, MySQL **Jan 2022 – Jun 2022**

- Developed core infrastructure of web application in Node.js, including APIs for handling requests and responses.
- Designed database for storing voter information and encrypting sensitive information using cryptographic algorithm SHA256.

EXTRA-CURRICULAR

- Presented key patterns and insights related to pothole problems in Syracuse at Syracuse Open Data Day Hackathon.
- Participated in Smart India Hackathon organized by AICTE and provided technical solution at an industry level problem for queue wait-time prediction among 3,00,000+ competitors.