Dinesh T V

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EDUCATION

PSG College of Technology   **Coimbatore, India**
M.Sc Theoretical Computer Science ***CGPA: 8.30***   *Aug. 2022 - Present*

TECHNICAL SKILLS

Programming Languages: C++, JavaScript, Python
Libraries and Tools: Git, Docker, Jira, Obsidian, Postman, Swagger, Kafka
Frameworks: ReactJS, NextJS, ExpressJS, NestJS

Databases: PostgreSQL, MongoDB, MySQL

WORK EXPERIENCE

Full-Stack Engineer
Ven Softwares LLP   *June - December 2024*

- Worked as a fullstack developer on a B2B analytics application, utilizing ReactJS for frontend development and Spring for creating RESTful APIs on the backend.
- Implemented a custom **data visualization library** for business performance analytics and worked with **version control APIs for GitHub** to analyze code quality and employee performance.
- Played a critical role in **designing and developing the MVP**, contributing to both full-stack development and designing the **workflow pipeline** within the company, along with leading the frontend developer team.

NON-ACADEMIC PROJECTS

- **Darpanet** Comprehensive event management solution built with NestJS.
  - A comprehensive solution for **college festivals, integrating user registration, team management and detailed statistics** through a unified backend, handling about 1000+ concurrent users.
  - Major contribution to backend development with NestJS, creating RESTful APIs, **managing Redis queues** for **efficient asynchronous processing** and **MinIO buckets** for **static storage**.
  - Ensured smooth **real-time updates** for leaderboards and event data, using websockets.

- **ChatPDF** A conversational chatbot for interactive PDF querying and summarization.
  - Built a **chatbot** for **interactive PDF querying and summarization** using **ReactJS, FastAPI, and LangChain**, enabling seamless multi-document contextual conversations.
  - Powered the chatbot with a **locally hosted LLM** on Ollama, containerizing the backend and LLM using **Docker**.
  - Deployed the application on a **private GCP server**, leveraging **cloud resources for efficient performance**.

ACADEMIC PROJECTS

- **ForeSight** A scalable big data weather model for weather forecasting.
  - Uses **Apache Kafka** for **real-time weather data** ingestion and **Apache Cassandra** for distributed storage.
  - Incorporates advanced **lag/rolling** features and employs a **Gradient Boosting Machine** (GBM) for accurate 72-hour weather forecasting.
  - Built a **FastAPI backend** for user interaction.

- **BloomSync** Command-line interface application built for file synchronization for UNIX systems using Python.
  - Provides **seamless file synchronization** between two directories.
  - File verification is done using the **Bloom filter** data structure - ensuring minimal computations and keeping false positive rates less than 0.1%.
  - Comes with a custom **CLI tool** that installs the application and configures the directories, along with setting up a **cron job** for synchronization.

EXTRACURRICULAR ACTIVITIES

- **Secretary, Computational Sciences Association** *March 2024 - Current*   Serving as the secretary and an office bearer for my department's association.