RAHUL R

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ABOUT ME

Passionate Full Stack Developer, an expert in coding, problem-solving, and building scalable solutions. My expertise spans both front-end and back-end development, specializing in crafting modern, custom Material UI interfaces using JavaScript and CSS without relying on libraries. On the backend, my preferred stack includes Python and FastAPI, though I am equally proficient in Node.js and Express.js. I have hands-on experience with databases like MongoDB, MySQL, and Redis, and I excel at designing architecture for multi-service applications, Data Pipelines, Web Scraping, and deploying Machine Learning models, and using tools like Docker to streamline deployments. My coding journey began in high school, learning from online resources like YouTube, HackerRank, and community forums. Over time, I've sharpened my skills through internships and real-world problem-solving as a Software Engineer.

EXPERIENCE

Litmus7 | Trivandrum | January 2022 - Present | **3 Years**

Associate Software Engineer | Python

- Working on Python projects for AI/ML tasks like NLP, Generative AI, RAG and productionizing those models in REST API, using FastAPI.
- Architecture Design, Building End to End Data Pipelines including but not limited to scraping, extracting, transforming and storing data.
- Database design for MongoDB, and caching in RedisDB.
- Building Visualizations & UI for POC level ML models using custom JS, CSS. Also Building Custom Labelling UI for state-of-the-art models.
- Web Scraping and building Pipelines for data collection preprocessing and validation etc.
- Writing Unit Tests (pytest), Dockerizing Services using dockerfile and docker-compose.
- My other responsibilities in Litmus7 include taking coding interviews for 1 - 2 year experienced candidates. Train and familiarize new hires with ongoing projects. Code reviews, enforce best practices to maintain high-quality standards.
- Optimizing existing code for speed and code maintainability.
- Sole developer and maintainer of a Framework that includes Data Structures utils, DB Handlers, Helpers for async, logging (file logging with rotation and an option to write in parsable JSON lines format and a UI to view and filter logs, db logging), custom schema validation wrappers, LLM wrappers, Adapters, Decorators, Middlewares (for FastAPI), scraping tools including headless browser.

Litmus7 | Kochi | July 2021 - January 2022 | **6 Months**

Software Engineer Trainee | Python, Java, Rest APIs

- Python, FastAPI, Java, Spring Boot training
- MongoDB, MySQL, Redis, Elastic Search training etc.
- As part of a CTF (Capture the flag) event that I was responsible to conduct, I have developed an Electron.js app with Node.js, Express.js Backend and database MongoDB

INTERNSHIP

SunTec | Trivandrum | March 2021 - July 2021 | **5 Months**
Software Tester | Full Time

- o   Automation testing using TDM

Neonicz | Work from Home | January 2021 - March 2021 | **3 Months**
Java, Angular Developer | Part Time

- o   Java, Spring Boot API development, SQL, Angular
- o   Worked for a real client in Financial Sector

TCS | Trivandrum | July 2018 – August 2018 | **2 Months**
Junior Android Developer | Full Time

- o   Java, Android Studio.

TECHNICAL SKILLS & EXPERTISE

Programming Languages: Python (Expert), Node.js (Expert), JavaScript ES6 (Expert), Java (Beginner), C++ (Beginner), C (Beginner)

APIs and Frameworks: FastAPI (Expert), Express.js (Expert), Angular (Beginner)

Databases: MongoDB (Expert), MySQL (Expert), RedisDB (Intermediate), Neo4j (Beginner), ArangoDB (Beginner), ChromaDB (Beginner)

Others: Docker, pre-commit, Pydantic, mypy, Pytest, Git, Linux Shell, Conda, Pipenv, WSL

EDUCATION

MCA (Master of Computer Applications) | Kerala Technical University
Govt. RIT, Kottayam | June 2019 - July 2021 | **7.90 CGPA**

B.Sc. Computer Science | Kerala University
KICMA College, Neyyardam | June 2019 - July 2021 | **7.01 CGPA**

+2 Computer Science | Kerala State Board
Govt. Model School, Thycaud | June 2014 - July 2016 | **78.4 %**

SSLC | Kerala State Board
AMHSS School, Thirumala | June 2013 - March 2014 | **83.2 %**

PROJECTS

Engine for finding a solution for user's need (NDA) | Python, FastAPI, LLM, MongoDB

Adding only limited and vague info as the project is under NDA

- o   Developed user persona and demographics engine for tailoring LLM generated responses.
- o   Built an engine to collect user behaviour, preferences, user type and user properties.

- Built a user activity collector and pipeline to process and suggest products and other services based on user activity
- Built pipelines to pre-generate and cache results before the user might need them.

Utils Framework | Python

- Developed and maintaining a highly modular utilities framework that includes utils for data structures, helpers for async tasks, logging, and DB handlers for seamless backend development.
- Built Utils for file-based logging with rotation and JSON lines format for better traceability and troubleshooting with a UI that can view and filter logs based on these JSON params.
- Developed custom schema validators and LLM adapters for AI-related tasks. These wrappers include auto parsing LLM response to the provided pydantic Schema.
- Created pydantic to MongoDB JSON schema validator generator which can be added to MongoDB validation pipeline. It will validate any write, update operations for strict schema validation. This validation happens inside MongoDB, not from python side, so the data will always be valid regardless of how it got inserted.
- Built JSON diff finder for maintaining MongoDB document versioning that only stores latest version and what changed in a document from previous versions, that can be used to revert the document as well.
- Developed several other features like retry, trace request etc.

Scraper Framework | Python, Playwright, BeautifulSoup

- Built a custom async web scraping framework to create scraper pipelines.
- Optimized for scalability by enabling asynchronous requests and providing an easy-to-use CLI (command line interface) for building new scrapers.
- Developed a UI to visualize async scraping tasks, sub tasks, estimated complete time, progress, status etc.

SSH File Manager | Node.js, Electron.js, Angular, SSH

- Developed a desktop GUI file manager for remote SHH and local file management.
- Integrated secure SSH connections to enable remote file transfers and folder synchronization across systems.
- Implemented drag-and-drop UI with cross-platform compatibility.

ACHIEVEMENTS

- Received an award for Credibility from Litmus7
- Won First Price (as a 4 member team) for Idea presentation and POC development Hackathon conducted by Litmus7.
- Participated & won 1st & 2nd prices for Coding & Web Designing from several colleges like NIT Calicut, NIT Trichy, CET Trivandrum, TKM Kollam, Saintgits Kottayam, etc while pursuing Post Graduation.

CERTIFICATIONS

- TCS NQT - 1269 / 1800
- HackerRank | Problem Solving | Basic | July 2020
- HackerRank | Java | Basic | July 2020
- HackerRank | Python | Basic | October 2020

- o   HackerRank | CSS | Basic | July 2021
- o   HackerRank | JavaScript | Intermediate | August 2021
- o   HackerRank | SQL | Intermediate | August 2021

POSITION OF RESPONSIBILITY

- o   Interviewing 1 to 2 year experienced candidate for coding skills.
- o   Training and familiarize new hires with ongoing projects.
- o   Code reviews, enforce best practices to maintain high-quality standards.
- o   Conducted a CTF (Capture the flag) Event twice in Litmus7 one within the team and one for Litmus7 Kochi and Trivandrum.
- o   Technical Lead at Career Guidance & Placement Cell of Govt. RIT College, Kottayam.

SOFT SKILLS

- o   Self-motivated
- o   Determined
- o   Quick Learner
- o   Hands-on-Experience
- o   Time Management
- o   Strategizing and Planning
- o   Problem Solving