Atharva Dumbre
Full Stack Developer

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PROFESSIONAL SUMMARY

Results-driven Full Stack Developer with 4+ years of experience designing, developing, and deploying robust web applications and scalable systems. Proficient in Python, JavaScript, Java and modern frameworks like React.js, Angular, Django, and Spring Boot. Adept at building high-performance APIs, managing databases (MySQL, MongoDB, PostgreSQL), and leveraging cloud technologies (AWS, Azure, Docker, Kubernetes) to deliver end-to-end solutions. Skilled in Agile methodologies, CI/CD pipelines, and version control tools like Git and GitHub. Known for optimizing system performance, collaborating with cross-functional teams, and delivering user-centric, innovative solutions aligned with business objectives.

SKILLS

Methodologies: SDLC, Agile, Waterfall

Languages: Python, SQL, JavaScript, TypeScript, Java, C

IDEs: Visual Studio Code, Jupyter Notebook, PyCharm

Frameworks: Flask, FastAPI, Node JS, Next.js, Express JS, React JS, Django, Spring Boot, TensorFlow, Keras, PyTorch, NumPy, Pandas, Web2py, CherryPy, Requests, PyTest, Selenium, Bootstrap, Tailwind, Redux, Restful API, GraphQL, AJAX, XML, JSON, jQuery

Cloud: AWS (EC2, S3, Lambda, SageMaker, Athena, Redshift), Azure, GCP, Snowflake, DataBricks, Docker, Kubernetes, Terraform, Ansible, Apache Airflow, Spark, Kafka, Hadoop

Databases: MySQL, SQL Server, MongoDB, PostgreSQL, Firebase, PL/SQL, Maria DB, Cassandra DB, Oracle, Redis

Tools: GitHub, Git, JIRA, Confluence, UML, MS Visio, Jenkins, GitHub Actions, Power BI, Tableau, Excel, Elasticsearch, Dramatiq

Operating Systems: Windows, Linux, UNIX, Mac

Misc: Machine Learning, Deep Learning, Data Science, Data Analytics, Natural Language Processing (NLP), LLM's (Large Language Model's), Retrieval Augmented Generation (RAG), Predictive & Statistical Modelling, Web Development, SDLC, ETL & ELT pipelines, CI/CD, A/B Testing

EXPERIENCE

PNC Financial, USA | Full Stack Developer   June 2024 - Present

- Led end-to-end design, development, and deployment of robust full-stack web applications leveraging React.js for front-end development, Node.js, and Express.js for back-end services, delivering scalable and maintainable solutions that meet business objectives and client specifications.
- Designed and implemented dynamic, user-centric web applications utilizing Python, Django, and React.js. Focused on delivering high-performance, scalable solutions that ensured fast load times and responsiveness, resulting in enhanced user experience and improved application performance.
- Developed and optimized ETL pipelines using Python libraries such as NumPy and Pandas to process and analyze large datasets. This approach ensured high data accuracy, streamlined workflows, and improved the efficiency of data processing, reducing execution time by 40%.
- Collaborated with cross-functional teams (including product managers, designers, and QA engineers) to design and develop high-performance, secure, and efficient RESTful APIs and microservices, improving application performance and reducing response times by up to 30%.
- Implemented front-end UI components using JavaScript, HTML, CSS, and Tailwind CSS, ensuring responsive, mobile-first designs that offer a seamless and enhanced user experience across devices and platforms, following best practices for front-end performance optimization.
- Designed and implemented efficient, flexible, and developer-friendly APIs using GraphQL, ensuring optimized data retrieval and reduced payloads compared to REST.
- Optimized database queries and indexing strategies in MySQL and MongoDB, resulting in a 25% reduction in query execution time, enhancing database performance, and ensuring high scalability for handling large datasets and concurrent user traffic.
- Applied Agile methodologies to manage project timelines and deliver incremental software releases in collaboration with product owners and stakeholders, ensuring features were delivered on time, aligned with business requirements, and met or exceeded client expectations.
- Integrated cloud technologies such as Docker and Kubernetes to streamline application deployment and enhance scalability across AWS and GCP environments.
- Developed reusable Terraform modules and defined Infrastructure-as-Code (IaC) standards to streamline resource management. Automated cloud infrastructure provisioning and management using Terraform, enabling consistent and repeatable deployments across development, staging, and production environments.
- Utilized AWS cloud services (EC2, S3, Lambda) for hosting and deploying applications, ensuring high availability, scalability, and cost-efficiency. Leveraged AWS best practices to optimize resource utilization, reduce infrastructure costs, and improve overall application performance.

New Jersey Institute of Technology, USA | Full Stack Developer   Sep 2023 - May 2024

- Developed a VS Code extension to showcase the capabilities of a prompt-tuned GPT-4o model for mitigating code vulnerabilities introduced by large language models (LLMs), enhancing the reliability of AI-generated code through advanced prompt engineering.
- Designed and implemented core features, including code auto-complete with accept/reject options, user-initiated code explanation, and code generation from prompts with guided acceptance workflows, improving user control over AI-generated content.
- Collaborated with Ph.D. students to integrate the GPT-4o model endpoint, aligning with guidelines from the supervising professor to adhere to best practices for secure code generation.
- Built the extension's frontend using TypeScript and a backend server in JavaScript hosted on Render.com, ensuring robust performance and scalability.

- Presented the VS Code extension to investors as a functional prototype to secure funding, demonstrating the model's effectiveness in reducing security vulnerabilities and promoting responsible AI usage in software development.
- Helped to increase the CS656 (CS656: Internet & Higher Layer Protocols) pass rate by tutoring 100+ students, leading a team of graders, & assisted the research team in implementing over 3 reinforcement learning algorithms in Python using PyTorch for traffic light cycle control.
- Accomplished a 7% reduction in average vehicle waiting times compared to fixed-time methods in simulated traffic intersection environments; Integrated dueling DQN, double Q-learning, & prioritized experience replay algorithms into optimization model, experimenting for 1500 epochs.
- Reviewed and summarized 25+ research papers with PhD students, contributing to a 20% increase in publication acceptance rates.
- Achieved 99% annotation accuracy for over 300 images of simulated traffic intersections using Roboflow resulting in improved dataset quality; Configured, installed, and troubleshooted CARLA & SUMO traffic light cycle simulation environments for over 10 researcher systems.

Citus Infotech, India | Full Stack Developer   **Jan 2020 - Jul 2022**
- Delivered high-quality, maintainable code by adhering to the Waterfall project methodology, ensuring a structured approach throughout all project phases from requirements gathering to system deployment. This included maintaining comprehensive documentation and ensuring all project milestones were met on time.
- Designed and developed dynamic web applications using Python and Flask frameworks, optimizing application performance and reducing server-side load by 30%, ensuring faster response times and improved resource efficiency.
- Developed and maintained robust web applications using Django, focusing on building efficient APIs and back-end logic to support business-critical operations, ensuring system stability, scalability, and responsiveness.
- Built and integrated RESTful APIs using Django and the Requests library, facilitating seamless communication between front-end and back-end systems, which enhanced system functionality, streamlined data flow, and improved overall user experience.
- Designed and implemented back-end logic and database schemas using SQL Server and Redis, ensuring high data consistency, reliability, and scalability for handling growing datasets and application demands.
- Led the creation of automated unit and integration tests using PyTest and Selenium, increasing test coverage by 40%, ensuring early detection of issues and enhancing code reliability through continuous testing.
- Spearheaded the integration of third-party APIs, ensuring smooth interoperability between systems and improving overall operational efficiency, resulting in faster business processes and reduced manual effort.
- Designed and implemented serverless functions using AWS Lambda, enabling cost-effective and scalable application components.
- Provided troubleshooting and debugging support for production systems, identifying and resolving critical issues swiftly to minimize downtime and ensure seamless application performance in live environments.

EDUCATION

M.S. in Computer Science | New Jersey Institute of Technology, Newark, NJ, USA | GPA: 3.78 / 4.00 | Sep 2022 – May 2024

B.E. in Computer Engineering | University of Mumbai, Maharashtra, India | GPA: 7.88 / 10.00 | Aug 2018 - May 2022

PROJECTS

Customer data Realtime DE Pipeline – Python | Apache Airflow | Kafka | Spark | Cassandra | PostgreSQL | Docker
- Developed an end-to-end data pipeline for real-time user data ingestion, streaming with Kafka, processing with Apache Spark, & storage in Cassandra. Orchestrated tasks with Apache Airflow & containerized services using Docker for seamless scalability.

YouTube Video Trends Data Engineering & Analysis – AWS | Power BI | SQL | DAX
- Implemented an ETL pipeline using AWS S3, Glue, Lambda, Athena & CloudWatch to process & analyze 70,000+ YouTube Trending Videos from the USA, Canada, & Great Britain. Converted JSON to Parquet & created a dashboard with 5 key performance indicators (KPIs) & trends.

Fintech - Revenue Analysis: Hospitality Domain – Power BI | SQL | DAX
- Designed a Power BI dashboard for the Codebasics Resume Challenge, using DAX & SQL to process 90 days of hospitality data. Created 26 new key performance indicators (KPIs) & plotted comparison graphs to analyze trends & performance.

RAG for Pdf's – Python | Streamlit | LangChain | HuggingFace | FAISS
- Programmed a chatbot using Streamlit to convert PDFs into a searchable knowledge base with the FAISS vector database, LangChain, & Google's T5 LLM with average query retrieval in 4 seconds.

AI Logo Generator (creative-dalle.com) – MERN (Mongo, Express.js, React, Node.js) | OpenAI
- Launched a logo generation platform with OpenAI's DALL-E 3, featuring "Surprise Me," social sharing, & keyword search. Ensured 99.9% uptime for the platform through Render.com & Hostinger.com cloud hosting, & optimized logo delivery using Cloudinary.

CERTIFICATES
- AWS Cloud Practitioner | Oracle Generative AI Professional – Oracle | TensorFlow Developer Certificate – Google
- Foundations of Machine Learning & Applications Bootcamp - IIT Mandi | Neural Networks & Deep Learning - NVIDIA
- Fundamentals of Deep Learning for Computer Vision – NVIDIA | HTML, CSS, & JavaScript for Web Developers – John Hopkins University

ACHIEVEMENTS & REASEARCH PUBLICATION
- Secured 1st place for "**Most Creative Use of Redis Cloud**" at HackNJIT Oct 2023.
- Achieved **Kaggle Expert** Badge (3647 Highest Rank).
- Published "Classification Of Indian Sign Language Characters Utilizing Convolutional Neural Networks & Transfer Learning Models with Different Image Processing Techniques" in IEEE conference - **Link**