Avinash Kumar Shudhanshu

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Software Engineer| Backend | Full-Stack | RAG-AI | DU

Academic Profile

M.Sc. Informatics	2019	Major- Information Technology and Computer Networks	**University of Delhi**
B.Sc. Electronics	2017	Major- Electronics and Communication	**University of Delhi**

Work Experience

	Total: 06 Years

Incyte(RL), Bengaluru, India	**Aug'24 - current**
Senior Software Engineer https://incyte.com/	- Designed and developed AI agents for drug discovery applications, leveraging RAG (Retrieval-Augmented Generation) for intelligent document and media processing with WebSocket and WebRTC. - Built and optimised AI-powered search and retrieval systems using LangGraph, LangChain, Vector Databases and Langsmith and an orchestration framework. - Developed end-to-end pipelines for document ingestion, indexing, and querying, integrating AWS S3, OpenSearch, and DynamoDB for scalable storage and retrieval. - Design, implement, and optimise RAG pipelines, including embedding strategies, vector search, and retrieval patterns using Langchain, LangGraph and LangSmith and Vector Databases. - Worked with AWS and Azure cloud ecosystems, optimising the deployment and performance of AI-driven applications and integration with different GenAI Models like OpenAI, Gemini, Claude, e.tc.

Docquity, Gurugram, India	**Aug'22 - May'2024**
SDE, **Backend** https://docquity.com/	- At Docquity, I worked as a Back-end engineer to re-engineer an existing monolithic architecture into a microservices-based architecture. I introduced gRPC for inter-service communication and added caching for fast data retrieval. - I wrote several services for features like community, webinars, content management, etc., which handle thousands of concurrent users and high-volume, real-time data processing. - Content Service - This service works as a storehouse for all other services; it manages all types of content like text, audio, video, etc. Tech stack - Springboot(JAVA), Python, Mongodb, Redis, gRPC, Jenkins, Docker, Websocket and Webrtc - Community Service—This is a feature service where doctors can create a community according to their speciality and actions—join, invite, exit, block. The tech stack is Python(Django), MySQL, and AWS. - Promo View Strip - A feature Service to show a strip on the app's home page to attract more users to events and thus increase user engagement. Tech stack- Nest.js(Node), Python, PHP, MySQL, AWS.

Zenarate(Naehas), Gurugram, india	**June'21 – July'22**
Software Engineer, **Full Stack** https://www.zenarate.com/	- At Zenarate, I worked as a Full Stack Developer to add new features to existing applications. - I added WCAG compatibility(accessibility) to the application, i.e., the website can be used by visually impaired people with the help of tools like VoiceOver (MAC) and JAWS(Windows). Tech Stack - JavaScript, jQuery, React.js - Added a scheduled assignment feature to create Stories of AI chat and audio sessions to boost the KPI of financial organisations by 30%. Tech stack - Python, Node.js, JavaScript, MySQL - Added Spell-check and grammar-check features to the existing AI chatbot. Tech stack - Python, Node.js, JavaScript, MySQL, integration with different GenAI Models like OpenAI

Samarth eGov(IIC UDSC), New Delhi, India	**June'19 - May'21**
Programmer, **Full stack** https://docs.samarth.ac.in/	- At Samarth, I worked as a full-stack developer to create web applications that could cater for lakhs of concurrent users during peak hours. - Recruitment Module- An application that serves pan-India recruitment for universities. Tech stack- PHP, MySQL, JavaScript. Trained small models for internal application using ML frameworks(TensorFlow) - Examination Module- An application that allows students of Indian universities to appear in online examinations, grading, and evaluation. Tack stack, Nodejs, PHP, JavaScript, Mysql, Python - Evaluation and Verification Module- An application that allows students and other academic entities to generate documents from various sources and verify them online without any paperwork. Stack- PHP, Python, MySQL, AWS.

Skills

Technical Expertise	**JavaScript(Nodejs,ReactJS), TypeScript(Nest.js), Python(Django, Flask, Streamlit,), php(YII,Slim)**, Java - Communication protocols: **RESTful, gRPC, WebSockets, MCP, e.tc.** - Databases used - **MySQL, MongoDB, PostgreSQL, DynamoDB, OpenSearch, Redis(for caching)** - Cloud Services- **AWS(EC2, S3, SQS, SES,lambda, cloudfront, cloudformation, e.tc.),Azure(dev-tools)** - DevOps tools- **Git, Jenkins, Docker, K8S, Terraform, CI-CD, LangFlow** - RAG-AI tools and Orchestration -**LangChain, LangGraph, Vector-Databases, GenAI (OpenAI, Gemini, Anthropic, etc.), embeddings, vector search, retrieval strategies, and chunking approaches**
Soft Skill	• **JIRA, Confluence, MS-365, Github, GitLab, Azure DevOps, JetBrains IDEs, VsCode, Windsurf, Cursor, Copilot**, e.tc

Certifications

	- Network Security Expert 2(Associate), Fortinet - Machine Learning, Stanford Online - CompTIA Security+, Cybrary - Network Security Expert: Fortinet

Academic Awards & Achievements	
Co-Curricular	● Author of various research papers(6) published in different journals and conference proceedings
	● Awarded with merit-cum-means scholarship - 2018 ● Awarded ELITE (Education in Lively Innovative Training Environment) Fellowship at Acharya Narendra Dev College.
Extra-Curricular	● Has been a part of the team responsible for upgrading CAN(campus area network) in UDSC from 1 Gbps to 10 Gbps using a star+ring network configuration, eliminating SPOF(single point of failure), which serves 18,000 endpoints across the university.
	● Granted cluster innovation project by MoE and established robotics and automation lab