

Aatish Balaji

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EDUCATION

New York University

M.S. in Computer Science; GPA: 3.90/4.00

New York, NY, US

Sep 2023 – May 2025

Vellore Institute of Technology, Vellore

B.Tech in Computer Science and Engineering; GPA: 8.5/10

Tamil Nadu, India

Jun 2016 – Jul 2020

EXPERIENCE

New York University

Graduate Assistant

New York, NY, US

May 2024 – Present, Part-time

- Assisting in teaching and grading for courses: * *Operating Systems* * *Open Source Software Development*
- Researcher at NYU Blockchain Lab working on developing end-to-end encrypted Decentralized Finance (DeFi) AI agents

DISH Network

Software Engineer - Retail Wireless

Bangalore, India

Mar 2021 – Aug 2023, Full-time

- Coded a microservice to calculate tax rates across various jurisdictions, achieving a 99.9% critical availability, seamlessly integrating with third-party APIs and deployed it as EKS service on AWS EC2 instance
- Engineered serverless functions using AWS Lambda, API Gateway and DynamoDB achieving 30% faster deployments
- Streamlined CI/CD pipelines via Jenkins, Kubernetes, and Docker, ensuring 99% uptime for critical systems. Implemented automated testing frameworks with Mockito and Postman, increasing test coverage by 40%
- Architected microservices-based solutions on AWS Lambda, API Gateway, and DynamoDB, leveraging AWS Step Functions for workflow orchestration, reducing downtime by 40%
- Developed serverless applications in Python to consume events and perform data enrichment to MongoDB and PostgreSQL automated with cron expressions

ACI Worldwide

Software Engineer – Innovations Team

Bangalore, India

Jan 2020 – Jul 2020, Internship

- Utilized industry-standard currency conversion APIs to display multi-currency information, significantly enhancing the portal's usability for international users
- Implemented a cross-platform "Add to Wallet" feature to Student Payment Portal using JavaScript, enabling students to store tuition bills in digital wallets, resulting in a 24 increase in student satisfaction

PROJECTS

Web3 Social Media Platform [Github](#)

Nov 2024

- Designed and implemented a Web3 social media platform prototype using a MongoDB cluster for database management, Solidity for developing ERC-20 smart contracts, and Django for connecting with Web3 and managing backend operations, deployed on the Polygon zkEVM testnet
- Developed smart contracts for reward distribution, staking, and engagement tracking, integrated with MetaMask for wallet management, and built backend functionalities in Django to support seamless Web3 interactions and token management

High Frequency Grid Trading [Blog](#)

Dec 2024

- Developed a high-performance backtesting framework for high-frequency trading (HFT) strategies using Python, leveraging libraries such as Numba, Polars, and custom-built tools for multiprocessing and data processing, applied to tick-level data from Binance BTC-USDT and ETH-USDT pairs
- Implemented a grid trading strategy with realistic latency modeling and advanced data handling on an AWS EC2 instance, enabling scalable analysis of large datasets in .npz format, with results analyzed using metrics like Sharpe Ratio, cumulative returns, and equity curve visualizations

Market Research Agent [Github](#)

Jan 2025

- Engineered a RAG pipeline using Python, Qdrant vector database, LLM API, and MongoDB, enabling context-aware content creation by spanning multiple data sources like Coingecko API and trending topics, with vector embeddings
- Developed a scalable framework for monitoring and analyzing social media trends, integrating NLP models, retrieval-based content generation, and data embeddings, while leveraging dynamic topic extraction and ranking to generate highly relevant, engaging tweets in the cryptocurrency domain.

SKILLS

Languages: Java, Python, C++, TypeScript

Database and Analytics: MongoDB, PostgreSQL, MySQL, NoSQL, Vector Databases (Qdrant), Kafka, Hadoop, Spark

Cloud and DevOps: AWS, Terraform, Jenkins, CI/CD, Docker, Kubernetes

LLM integration: Retrieval-Augmented Generation (RAG), Vector Embeddings, contextual spanning, NLP

Software Development: Spring Boot, Django, REST API, GraphQL, GitLab, Git, Agile

RELEVANT COURSEWORK

Graduate coursework: Database Management System, Big Data, Data Structures and Algorithms, Open Source & Professional Software Development, Object Oriented Programming, Distributed Systems