YASH MATHUR

Software Engineer | Fullstack & System Design Enthusiast | 2+ years of experience
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Innovative and resourceful full-stack software engineer blending deep AI and data expertise with **robust backend architecture** to build **secure** and **scalable** products. Spearheaded OpenAI-driven semantic search and retrieval-augmented generation (RAG) pipelines on AWS, turbocharging data insights. Architected **20+** secure microservices at Cimpress, processing **10M+** shipments annually. A **bold problem-solver** who consistently **delivers impact** in fast-paced, product-driven environments.

EDUCATION

New York University, New York, NY   Sept 2023 – May 2025
Masters in Computer Science | Overall GPA: **3.9**
Relevant Coursework: *Cloud Computing, Database systems, Internet Security and Privacy, Big Data, Data Structures and Algorithms, Operating Systems*
Visvesvaraya Technological University, Bangalore, India   Aug 2017 – Aug 2021
Bachelor of Engineering in Computer Science | Overall GPA: **3.49**

SKILLS

Web Development:	TypeScript, Node.js, Java, Python, FastAPI, REST/GraphQL, Microservices, React.js
Cloud & DevOps:	AWS (Lambda, S3, EC2), Docker, Kubernetes, Terraform, CI/CD (GitHub Actions)
AI/ML:	OpenAI, RAG, Vector Embeddings, Prompt Engineering, Semantic Search
Databases:	PostgreSQL, DynamoDB, Supabase (VectorDB), Kafka, Redis
Testing & Monitoring:	Mocha, Chai, JUnit, Prometheus, New Relic

EXPERIENCE

Software Engineer Intern, **Sonicbids,** New York, NY   June 2025 – Present
- Lead **end-to-end feature development** for artist-venue booking workflows using React/Node.js, cutting onboarding time by **30%**.
- Built **semantic search** for **100K+** artists/venues using **OpenAI embeddings** & **Vector DB**, improving match accuracy by **40%**.
- Implemented **daily digest notifications** (EventBridge/Lambda/Supabase/SES) for venue subscriptions, achieving **60%** open rates.

Business Analyst Intern, **MTA-NYCT,** New York, NY   June 2024 – August 2024
- Built a **real-time** analytics dashboard(Python/Dash) comparing traffic violation data from vendors, uncovering **15%** discrepancy rates.
- Engineered a **RAG pipeline prototype** (FastAPI + GPT4o + VectorDB) hosted on AWS EC2 for **clause extraction** and **auto-summarizing** vendor contracts, cutting retrieval time from **minutes to seconds**.

Software Engineer, **Cimpress,** Bangalore, India   August 2021 – April 2023
- Owned shipping logistics features across **20+ microservices** (Node.js/Java/TypeScript) processing **10M+** annual shipments.
- Led **end-to-end integration** of a Japanese carrier system, automating generation of shipping labels/documents with **zero downtime**.
- Designed a transit-time microservice that **cut query latency from 1.2s to 800ms**, saving **200+ engineering hours/month**.
- Monitored backend microservice health using Sumo Logic and improved system reliability by debugging on-call incidents and reducing downtime by **25%**.
- Collaborated with DevOps to **optimize Docker/K8s deployment pipelines**, improving system boot-up time and scaling efficiency across cloud environments; led architecture upgrades and DevOps automation efforts, reducing system vulnerabilities by **40%.**
- Coordinated closely with **10+** software development teams and **global customers** spanning **5** time zones in an agile environment.

Software Developer Intern, **Surewaves MediaTech,** Bangalore, India   January 2021 – July 2021
- Automated Ad Slot Processing by eliminating manual Excel data entry through building a parser (ASP.NET) that ingests slot details into PostgreSQL, saving **15+ hours/week** of operational work while reducing errors by **90%**.
- Designed inventory management Ad Platform APIs (ASP .NET/PostgreSQL), boosting slot allocation **25%**.

PROJECTS

NYU-TV Cloud Project (2024)
Deployed a **cloud-based streaming platform** for NYU, enhancing user experience with features like recorded event viewing and live event streaming; employed AWS services like **Cognito**, **IVS**, **Lambda**, **OpenSearch**, **Rekognition** for a serverless and scalable backend infrastructure. *Technologies incorporated: React, Node.js, Java, Python, AWS Services.*

Smart Home Energy Management Systems (2023)
Developed a web app, leveraging microservices architecture, enabling homeowners to monitor historical energy usage, manage devices, and analyze data for informed energy-saving decisions. Applied robust security measures, including authentication middleware and CORS for secure user interactions. *Technologies incorporated: Flutter, Nodejs, Express.js, TypeScript, PostgreSQL*

Generative Adversarial Networks (GANs) – Text to Image generation (2021)
Innovated an advanced GAN model with a stacked architecture to synthesize high-resolution, photo-realistic images from textual descriptions by leveraging deep learning, GANs, and CNN techniques. *Technologies incorporated: Tensorflow, openCV, numpy, matplotlib.*

LEADERSHIP ACTIVITIES

- Teaching Assistant and Course Assistant, NYU for Intro to Programming Languages (Aug 2024 - May 2025).
- Campus Ambassador and Club Head of HackerEarth (Aug 2018 – Jul 2020) - mentored students, facilitated hackathons, coding competitions, brainstorming sessions, and quizzes.
- Orchestrated a 48hr Hackathon, Hack-It-On 3.0 open to all colleges in Bangalore with 100+ participants.