Vasu Bansal

Double Major - Mechanical Engineering · Aerospace Engineering · Indian Institute of Technology Kanpur

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Experience

- **MTS-3, Nutanix** — May '25 – Presemt
  NDB - R&D: Security and SQL Server
  - Solving bugs and underwent lateral hire bootcamp.

- **SDE L2, GoTo Financial (Gojek)** — June '22 – May '25
  FinTech - Data Products & Infra Engineering - OneKYC (Backend - Java, Golang)
  - **GCS Cloud Optimization** - Resulted in 25% reduction in GCS costs.
    - **Kubernetes Resource Efficiency**: Analyzed and adjusted CPU and memory requests and limits for various services running in Kubernetes
    - **JVM fine-tuning**: Fine-tuned *JAVA_OPTS* parameters to optimize old-generation garbage collection, resulting in more efficient memory utilization and reduced latency.
  - **Partner Initiatives** - Entities which use our KYC process
    - Onboarded Gojek Driver, Vehicle Financing, Offline Merchants as partners
    - Cross-data pollination between Cashloan and Cicil
  - **PII Encryption** - For multiple services and respective databases
    - Planned **DB migrations** and dealt with edge-cases due to legacy data
    - Developed asynchronous workers for encryption and consistency jobs
  - **Analytics Service** - Uploading log data resulting in easier debugging
    - Generates on-demand presigned URLs for uploading data to GCS
    - Integrated **Kafka** events for BI consumption and data retrieval
  - Dedupe automation → **12%↑ in automation rate and 50%↓ in p90 SLA**
  - Developed an adapter to serve as an entry point for on-demand services
  - Actively debugged production cases as part of Fraud prevention

- **Analyst, Deloitte USI** — June '21 – June '22
  Project CogSpend - Supply Chain & Network Operations
  - Automated file downloading for CogSpend database using **Python script**
  - Feature development in Springboot as per client requirements with unit-tests

Projects

- **Homelab**   April '24 - Present
  Self motivated project - Work In Progress
  - **Self-hosting** various services on Synology DS-923+ and RaspberryPi
    - **Tailscale** as private VPN to connect devices and servers securely.
    - **Adguard** for DNS blocking, **Vaultwarden** as password manger.
    - **Immich** as private photo backup and cloud service.
    - **Portainer** for container management, **Proxmox** for Virtual Environment.
    - **Prometheus**, **Grafana**, **NodeExporter**, **cAdvisor** for monitoring.

- **Inventory Management**   Jan '23 - Feb '23
  Self motivated project - MySQL, MongoDB
  - Containerized Springboot micro-service project for self-learning
  - Implemented various modern micro-service paradigms listed below:
    - Inter-service communication, fault-tolerance using **Resilience4J**
    - Service discovery using **Eureka** and API Gateway using **Spring Cloud**
    - Authentication and authorization using **Keycloak**
    - Distributed tracing using **Sleuth and Zipkin**
    - **Kafka** message queues, **ELK stack** for logs, **Prometheus** for monitoring

- **Backend for FoodApp Website**   Jan '22 - Feb '22
  Self motivated project - NodeJS, MongoDB
  - Monolithic backend application in which users can buy, review food plans.
  - Implemented authentication and authorization using **bcrypt** and **JWT**
  - Used **Nodemailer** API for forget password and **Stripe** API for payments

- **Instagram Clone**   Jan '22 - Feb '22

- **NEAT Self driving car**   Feb '21 - April '21

- **IMDB Clone**   July '21 - Aug '21

Education

- **IIT Kanpur**   July '16 - July '21
  B.Tech. — CGPA - 7.8/10
- **St. Kabir Convent School**   March '16
  AISSCE — CBSE Class XII — 88.4%
- **St. Xavier's School**   March '14
  AISSE — CBSE Class X — 10 CGPA

Academic Achievements

- Awarded **Academic Excellence Award** for outstanding performance in 4th year at IIT Kanpur.
- JEE Advanced 2016: **AIR 1033**
- Qualified **RMO** and attended state-level workshop for INMO[a] 2015.
- NSTSE[b] 2014: **State Rank 56**

Technical Skills

- **Programming Languages:**
  Java, Golang, C++, Python, ,Bash
- **Tech Stack:**
  Springboot(Java), Ruby on Rails, Node.JS, React.JS
- **Software and Utilities:**
  PostgreSQL, Kafka, Redis, Docker, Kubernetes, Istio, ElasticSearch, Git, gRPC, Postman

Links

- Active on Leetcode, Codechef (3⋆), Codeforces (Rating - 1165)

Relevant Courses

- Data Structures & Algorithms
- Machine Learning
- Autonomous Navigation
- Robot Manipulators
- Robot Motion Planning
- Optimization Theory
- Advanced Statistical Methods
- Numerical Methods
- Finite Element Methods

Online Courses:
- Completed **HTTP Server, DNS server and BitTorrent client** challenges in Go on Codecrafters
- Deep Learning Specialization (Coursera)

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[a] Indian National Mathematics Olympiad
[b] National Science Talent Search Examination