PANSHUL JINDAL

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"**Backend-focused Software Engineer** with experience designing and scaling distributed systems, RESTful APIs, and cloud-native infrastructure. Skilled in server-side development with a strong foundation in SQL/NoSQL databases and containerized deployments using AWS and Docker."

SKILLS

Languages – Python, Golang, JavaScript/TypeScript, Java, Git, SQL, C/C++

Frameworks/Tools – NodeJS, Express, Flask, Django, FastAPI, Redis

Cloud/DevOps – AWS (Lambda, EC2, S3, SES), GCP (BigQuery, Compute Engine), Azure, Docker, GitHub Actions, CI/CD, HDFS

Databases – MySQL, MongoDB, PostgresSQL, DynamoDB, Neo4J, Firebase, Elasticsearch, Redis

Tools: Postman, Datadog, Retool, Twilio, Power BI, RabbitMQ, WebSockets, REST APIs

EDUCATION

University of Illinois, Urbana Champaign *Jan 2024 - May 2025*

Masters in Computer Science ***CGPA: 4/4***

Vellore Institute of Technology, India *Jul 2019 – Apr 2023*

Bachelor of Technology – Computer Science Engineering ***CGPA: 9.18/10.00***

EXPERIENCE

Backend Software Engineer - *Kwikpic AI Solutions (AWS, NodeJS, MongoDB, Python)* *Jan 2023 – Dec 2023*

- Developed scalable REST APIs to power user authentication, photo delivery, serving over **10 million** users across web and mobile platforms.
- Enhanced a facial recognition engine, achieving a 98.9% accuracy while reducing latency by over 30% through optimized image preprocessing.
- Built a **multi-channel notification system**, enabling the platform to dispatch mail, Whatsapp and SMS alerts to improve customer communication.
- Integrated Razorpay API for payment processing and created a user wallet system with event-driven architecture for seamless transactions.
- Achieved a 40% reduction in AWS costs by implementing auto-scaling and moving static workloads to serverless Lambda functions.

Research Assistant - *RailTEC, UIUC (Azure, Python, PySpark)* *Jun 2024 – Present*

- Orchestrated efficient **Python-based algorithms** for complex arithmetic calculations and leveraged PySpark to process large-scale datasets, optimizing query speed by 35% and enhancing backend efficiency by reducing processing time by 40% for critical infrastructure monitoring.
- Developed modular backend services hosted on Azure that store, and serve sensor metrics used in infrastructure diagnostics and anomaly detection.
- Integrated Python data pipelines with HDFS and Power BI, enabling fast, interactive dashboards and reducing data visualization lag by 30%.

Software Developer Intern - *Student Welfare Office (NodeJS, MongoDB)* *Mar 2022– Sept 2022*

- Built server-side APIs for VITNav, a mobile application that transformed student navigation on campus, garnering **50K+ downloads.**
- Implemented optimized NoSQL schema design for event tracking and notifications and improved performance for read-heavy workloads.
- Led deployment of backend on campus Linux servers using PM2 and Nginx, ensuring stability under load and reducing downtime to near zero.

PROJECTS

NotifyX - *(Golang, Redis, AWS Lambda)* *Feb 2025 – April 2025*

- Created a Golang microservice for high-throughput notification delivery via email, SMS, and webhooks with at-least-once delivery semantics.
- Deployed serverless Lambda handlers with Redis-based retry queues to ensure message idempotency and avoid duplicate webhook triggers.

LogChain - *(Django REST Framework, PostgreSQL, Redis)* *Jan 2025 – Mar 2025*

- Developed a centralized logging and alerting system to capture, store, and query structured logs from microservices.
- Integrated Redis to cache frequent log queries, improving API response time, and configured alerting logic for abnormal log patterns via Email.

CityBot - *(*AWS Lambda, API Gateway, DynamoDB, Lex V2, Python*)* *Jan 2025 – Feb 2025*

- Built a serverless chatbot using AWS Lex V2 and Lambda to answer shortest-path queries over user-defined graphs stored in DynamoDB.
- Designed a REST API to parse directed graphs, compute shortest paths using BFS; ensured stateless Lambda execution with data refresh logic.

Illini Classroom Management System *(GCP, NodeJS, MySQL, Redis)* *Jan 2024 – April 2024*

- Designed a full-fledged backend for academic tracking and parental monitoring, featuring role-based access control and automated grading APIs.
- Integrated JWT-based authentication and used Redis queues to manage assignment updates and live notifications.

ClimateSense *(Flask, CI/CD, Github Workflows)* *Oct 2022– Dec 2022*

- Designed a Flask backend system for a Fortune 500 automotive company, supporting climate control simulations with low-latency response.
- **Automated CI/CD pipeline** using GitHub Workflows, reducing deployment time by 35% and ensuring faster delivery of application updates.

HealthcareSaviour - *GitHub Link, Website Link (NodeJS, MongoDB, EJS)* *Jul 2021– Dec 2021*

- Implemented a solution for healthcare-related issues utilizing **PassportJS for authentication** and ExpressJS for secure server development.
- Engineered a secure, high-quality **video conferencing tool using WebRTC** for doctor-patient interactions, an alternative to physical meetings.

EXTRA-CURRICULAR

Technical Lead - *Apple Developers Group, VIT*

- Mentored 200+ students on backend development practices, organizing workshops and collaborative sprints; led backend architecture in NodeJS and MongoDB for projects like ADG-Connect, PaperVIT and CourseDB.
- Spearheaded the creation of internal backend tooling and documentation standards to streamline project collaboration for new contributors.