Pradeep Kumar G,

Senior Software Engineer specializing in Java, Spring Boot & Azure with exposure to AI/ML research and open source.
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WORK EXPERIENCE

Senior Software Engineer, MarTech | Optum (UnitedHealth Group)   **Jun 2024 – Current**
- Led team to launch 9 campaigns, reaching 1.5M+ members. Built event driven data pipelines based on serverless architecture, managed releases, conducted code reviews and supported via docs, KTs, and work hours.
- Implemented DLQ based retry pattern onto 15+ microservices for efficient retry of transient errors with exponential backoff and published non-retryable failures to dead letter queue for further RCA and reconciliation.
- Spearheaded cross-functional task force of 5 to resolve a complex Kafka issue in less than 6 hours, preserving business' key go-live date and securing 24-hour SLA compliance.
- Owner of Java library, abstracting API complexity using Façade pattern, hosted Azure and Kafka configurations, improving developer productivity, and removed 6000+ lines of code.
- Scaled API server to handle over 100,000 RPM from upstream by tuning tomcat configs and leveraging multi-threading and message queues for async request processing.
- Developed a secure, cron-based OAuth token generator for 15+ applications, retrieving client credentials from Azure Key Vault and caching tokens in Redis for microsecond-latency access.
- Collaborated with ops, business, and audit team leads to identify key failure points and built tools for daily monitoring of exceptions, proactive alerting and enabling 100% observability and issue resolution.
- Mentored and paired with 3 engineers across multiple scrum teams, enabling them to ramp up quickly and contribute independently.

Software Engineer, Consumer Engagement Platform | Optum (UnitedHealth Group)   **Jun 2022 – Jun 2024**
- Led an agile scrum team through lead and senior developer transitions, taking ownership of 20+ microservices and ensuring smooth project delivery without any delays or impact to quality.
- Scaled microservices by adopting Kafka pub-sub over REST APIs, boosting throughput by 300% and cutting ingestion time for 2.5 Billion+ records by 95%.
- Automated Java 8 to Java 17 migration for 100+ microservices and streamlined GitHub vulnerability and secrets management using Bash, saving 540+ developer hours while ensuring security compliance.
- Optimized SQL MERGE query by converting and chaining SQL INSERTS, leading to 90% reduction in data migration time of 1 Billion+ records.

Junior Machine Learning Engineer | Omdena   **Jul 2021 – Sep 2021**
- Initiated cross-functional effort to research various recommendation models to recommend exercises for Nestre's Android app.

Research Intern | Indian Institute of Technology, Patna   **May 2021 – Aug 2021**
- Implemented and fine-tuned 1D-Convolutional Neural Networks (1D-CNNs) using Python, TensorFlow, MATLAB, achieving **99%** accuracy in detecting ADHD from EEG signals.

AWARDS

MarTech Idea Challenge Winner – AI Test Automation & Deployment Validation   **Nov 2024**
- Secured funding and designed AI-based solution to generate 3x more test cases, and automate deployment validation saving 4+ hours of manual effort each release.
- Evolved into an internal product, now adopted across multiple teams to improve testing and release efficiency.

PUBLICATIONS
- Mandal, S., Kumar, G. P., Saini, M., Satija, U., & Kumar, Y. (2023). A unified deep learning framework for smartphone-enabled ADHD detection. *IEEE Transactions on Instrumentation and Measurement*, *73*, 1-11.

PROJECTS | OPEN SOURCE

Creator, JobTracker | github.com/deepPublicGit/jobTracker
- Implemented a job tracker in Go, to scrape career pages and notify users when new jobs are posted.

Contributor, Kestra | github.com/kestra-io/
- Designed and implemented pebble functions to allow debugging of file-based resources in Kestra workflows.

SKILLS

Languages: Java, Go, Python, Bash
Databases: SQL (PostgreSQL, SQL Server), NoSQL (Cosmos DB, Redis), KQL (Kusto)
Frameworks: Spring Boot, JMeter, JUnit, Mockito, Hibernate / JPA, Avro, Maven, Adobe Experience Platform
Cloud & Infra: Microsoft Azure, Apache Kafka, Kubernetes, Docker, Jenkins, Git (GitHub), Linux, Postman

EDUCATION

B.Tech in Electronics and Communications Engineering | Shiv Nadar University, Delhi NCR, IN   **May 2022**
Minor in Computer Science Engineering | Shiv Nadar University, Delhi NCR, IN   **May 2022**