PAVANKALYAN NAGELLI
Software Development Engineer

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SUMMARY

Software Development Engineer with 5+ years of experience in building scalable microservices and high-performance web applications. Expertise in TypeScript and Node.js, including a core algorithm refactor that successfully reduced API latency by 31%. supporting 15,000+ concurrent users and integrating advanced AI features using LangChain and GPT-4. Skilled in React.js and GCP, focusing on delivering clean code through TDD and automated CI/CD pipelines.

EDUCATION

University of Central Missouri   **MO, USA**
Master of Science in Computer Science   January 2024-December 2025

Guru Nanak Institute of Technology   **HYD, India**
Bachelor of Technology in Electronics & Communication Engineering   July 2017-July 2021

SKILLS

Languages: Python, Java (8/11), JavaScript (ES6+), TypeScript, SQL, C#, HTML, CSS, Tailwind CSS.

AI & GenAI: Hugging Face, Pytorch, LangChain, RAG (Retrieval-Augmented Generation), OpenAI GPT, Gemini API, Vector Embeddings, NLP, Semantic Search, LLM Integration, Scrapy, n8n.

Backend & Frameworks: Spring Boot, Spring Security, Hibernate, Node.js, Express.js, FastAPI, Microservices, RESTful APIs, Apache Kafka.

Frontend & Mobile: React.js, Angular, React Native, Redux, Tailwind CSS, Electron.js, Survey.js, Adobe Analytics.

Cloud & DevOps: AWS, GCP (Google Cloud Platform), Docker, Jenkins, Git, CI/CD, Containerized Deployments, Maven.

Database & Testing: PostgreSQL, OracleDB, MongoDB, Redis, JDBC, Jest, Mocha, JUnit, Mockito, Cucumber, Selenium, TDD.

PROFESSIONAL EXPERIENCE

FLOQAST   USA
Software Development Engineer (Backend & Distributed Systems)   May 2025 – Present

- Refactored the core reconciliation algorithm using Node.js and TypeScript, reducing API latency by 31% and enhancing data synchronization speeds for enterprise accounting clients.
- Designed and deployed scalable Microservices to handle month-end close spikes, supporting a user load of 15,000+ concurrent accountants during critical financial periods.
- Architected a type-safe middleware layer using Express.js to enforce strict data validation schemas between the client-side application and third-party ERP integrations.
- Integrated OpenAI GPT-4 via LangChain to power a 'Smart Search' feature, processing 5,000+ daily semantic queries to help auditors instantly retrieve historical policy documents.
- Led the frontend migration of the user dashboard to React.js and Tailwind CSS, delivering 7 new interactive modules that reduced average user workflow time by 20 minutes daily.

TATA CONSULTANCY SERVICES   INDIA
Software Engineer   October 2021–January 2024

- Championed a Test-Driven Development (TDD) culture using JUnit and Mockito, achieving 85% code coverage and drastically reducing critical defects in production releases.
- Partnered with a cross-functional Agile team of 10 developers and QA engineers to modernize core banking systems, facilitating daily stand-ups and bi-weekly sprint planning to align deliverables.
- Standardized application deployment by containerizing 15+ internal services using Docker, ensuring environment consistency across dev, staging, and GCP production clusters.
- Optimized high-volume financial data processing by tuning PostgreSQL schemas and Hibernate queries, handling 2.5TB+ of historical transaction records.

- Established a robust automated testing framework using Selenium and Cucumber, executing 200+ nightly regression scripts to identify integration issues prior to client delivery.
- Modernized the legacy codebase by upgrading from Java 8 to Java 11 across 5 core microservices, replacing deprecated libraries with current Spring Boot dependencies to mitigate security vulnerabilities.

INSTAHYRE   INDIA
Full Stack Engineer   August 2019–September 2021
- Designed and deployed a distributed web scraping pipeline using Python and Scrapy, aggregating candidate data from 18+ distinct sources to populate the recruitment database.
- Built interactive recruiter dashboards using React.js and Redux, enabling real-time visualization of candidate pipelines and interview scheduling.
- Refactored legacy backend API endpoints in Node.js, resulting in a 33% decrease in server response time and improved application stability.
- Orchestrated CI/CD pipelines using Jenkins to automate testing and deployment, supporting a bi-weekly release cycle for feature updates.
- Optimized MongoDB aggregation queries to support a rapidly growing user base of 27,000+ job seekers, ensuring sub-second search results.

PROJECT

IoT Disaster Dam Management System (Arduino, Raspberry Pi, Python, GSM, Cloud Dashboard)
- Designed a smart dam-monitoring solution to send real-time flood alerts via sensors and GSM communication.

ADDITIONAL EXPERIENCE

Perplexity, Student Volunteer   **August 2025–December 2025**
- Promoted Comet student tool via campus engagement and interactive events.

Muleskinner (UCM Student Newspaper), Student Volunteer   **August 2025–December 2025**
- Created digital content, photography, and event coverage for campus media.

Social Media Manager, Self-Employed   **July 2020–Present**
- Managed content creation, social media campaigns, and audience engagement strategies.

Adobe IoT Academy, Internship Trainee   **August 2018–January 2021**
- Developed automated IoT solutions integrating Arduino and Raspberry Pi with Python and Embedded C to enable real-time sensor monitoring and cloud-based data logging.

CERTIFICATIONS & AWARDS

- **Certifications**: AWS Certified Solutions Architect - Associate, AWS Certified Cloud Practitioner, Google Cloud Certified Associate Cloud Engineer, Spring Framework (Udemy), Agile Methodologies, Linux Programming, Fundamentals of Machine Learning & Artificial Intelligence (Coursera).
- **Awards**: Finalist - Smart India Hackathon 2019.
- **Volunteering**: National Service Scheme (NSS) Volunteer (4 Years)