Vanja Petreski

Principal Software Engineer | AI-Native Development · Backend Architecture | Java · Kotlin · Spring Boot · AWS · LLMs

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SUMMARY

With two decades of experience in software engineering and architecture, I specialize in building scalable backend systems and integrating AI/LLM capabilities into production applications. My expertise spans traditional enterprise development (Java, Kotlin, Spring Boot) and modern AI-native engineering practices (Python, FastAPI, Claude Code, Cursor).

I architect event-driven microservices, design RESTful and GraphQL APIs, and leverage AWS cloud infrastructure to deliver high-performance solutions across fintech, healthcare, and other industries. Recently, I've focused on pioneering AI-native development workflows, achieving 3-5x productivity improvements through tools like Claude Code, Cursor, and direct LLM API integration.

As a principal engineer, I balance deep technical expertise with strategic thinking—designing systems that scale, mentoring teams, and driving adoption of emerging technologies. I'm passionate about solving complex problems and building products that make a meaningful impact.

EXPERIENCE

Principal Software Engineer   Apr '24 — Present
Petreski LLC   United States (Remote)
Building scalable backend systems and AI-integrated applications for fintech and property management sectors.
- Java, Kotlin, Spring Boot, Python, FastAPI, Flutter, Dart, Firebase, Kafka, AWS, OpenAI, Anthropic Claude, Claude Code, Cursor, GitHub Copilot.
- Designed and implemented payment processing backend and transaction management systems using Java and Spring Boot for Chicago-based fintech platform.
- Developed backend services and API integrations for property management software using Python and FastAPI.
- Built full-stack iOS budgeting application using Flutter, Dart, and Firebase with integrated Claude AI for automated financial insights and recommendations.
- Integrated AI-powered features using OpenAI and Anthropic Claude APIs for production applications.
- Established AI-native development practices leveraging Claude Code and Cursor for 3-5x productivity gains.
- Architected event-driven microservices on AWS with Kafka for scalability and reliability.

Principal Software Engineer   Feb '21 — Apr '24
Nagarro   United States (Remote)
Architecting and developing AWS infrastructure, Internet of Things (IoT) solutions, backend services, and security for a wellness company that provides a vehicle to the deepest states of well-being through experiential health therapy.
- REST, gRPC, Java, Kotlin, Gradle, Maven, Spring Boot, Spring Security, Vue.js, TypeScript, Keycloak, CI/CD, DevOps, Open AI, AWS IoT, CloudFormation, ECS, Fargate, RDS, S3.
- Architected and scaled an AI-driven health industry platform, integrating LED-lighting, sound, and heating systems, achieving a user base of 50,000 active participants.

Principal Software Engineer   Dec '16 — Feb '21
Moody's Analytics   United States (Remote)
Creating a set of tools, libraries, frameworks, backends and standards to accelerate new application development and maintain / align code consistency and way of doing things across applications and teams.
- Java, Kotlin, Spring Boot, GraphQL, Docker, Kubernetes, AWS.
- Directed two teams of 10 engineers in the development of a risk management platform, resulting in a 40% reduction in project delivery time.

Software Architect   Jul '13 — Dec '16
X-Team   United States (Remote)
Working on complex Microservices to integrate with Federal Reserve banking system and provide modern backend services and APIs to fintechs and banks.
- Java, Spring, AWS.
- Designed and implemented an event-driven Fintech architecture leveraging Kafka, enhancing data processing efficiency by 30%.

Staff Software Engineer   Jan '10 — Jul '13
Riot Games   United States
Software architect and engineer developing awesome experiences and products optimized for Riot's players.
- Java, Spring, AWS, Terraform.

- Developed a custom Jira plugin that enhanced QA workflow efficiency, resulting in a 15% increase in productivity for Riot Games.

Senior Software Engineer   Dec '06 — Jan '10
Kindred Group   Estonia (Remote)
Software development of Java backend system to support online gambling business, integration with payment and gaming providers and back-office development.
- Spring, Hibernate, Maven, PostgreSQL, BigData, New Relic, reporting, SQL, DevOps.
- Orchestrated the overhaul of legacy gaming systems using advanced technologies, significantly reducing maintenance costs and improving user experience.

Software Engineer   Oct '04 — Dec '06
Asseco Group   Serbia and Montenegro
Architecture, development and DevOps of anti-money laundry software for the Ministry of Finance of the Republic of Serbia using Java, JEE, EJB3, MDB, JPA, Oracle AS, JSF and ADF.
- Deployment of production system in a super computing environment.
- Led the development of an AML system using event-driven architecture, enhancing system responsiveness and scalability.

EDUCATION

Master in Computer Science, University of Belgrade, School of Electrical Engineering

2001 — 2006
Serbia and Montenegro

- Electrical Engineering with focus on Computer Science

CERTIFICATIONS

AWS Certified Solutions Architect – Associate, AWS

AWS Certified Developer – Associate, AWS

Kotlin for Java Developers, Coursera

Entrepreneurship, Innovation & Digital Marketing, Harvard Business School Online

SKILLS

SWE   Java, Kotlin, Spring Boot, Python, FastAPI, AWS, Software Architecture, Technical Leadership, AI
Business   Entrepreneurship, Startups, Design Thinking, Innovation, Digital Marketing, Indie Hacking