

Krishna Gopal Madhavaram

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Professional Summary

- Experienced **Full-stack Java developer** with **4+ years** of hands-on experience in front-end and back-end technologies across **insurance, payroll, and ERP** domains.
- Proficient in **Java, object-oriented programming, data structures, and algorithms** with expertise in **SDLC, STLC, and Agile/Scrum** methodologies.
- Designed software architecture using **microservices patterns** and created detailed specifications for **Spring Boot** modules with scalable architecture.
- Developed full-stack Java applications using **Java** and **Spring Boot** with **Spring Security** and **Hibernate** for robust backend functionality.
- Implemented front-end functionality using **TypeScript** and **JavaScript** with **HTML5** and **CSS3** for responsive user interfaces.
- Built responsive web applications using **Angular** framework and **React** library for dynamic user experiences.
- Designed database schemas and optimized **SQL queries** for **PostgreSQL** and **Oracle** databases with **MongoDB** for NoSQL requirements and **PL/SQL** for data handling procedures.
- Built **RESTful APIs** and **SOAP web services** for system integration with third-party communication and **API testing** using **Postman** and **REST Assured**.
- Implemented authentication and authorization using **OAuth2** and **JWT** with **Single Sign-On (SSO)** capabilities.
- Implemented testing strategies using **JUnit** for unit testing with focus on integration testing and validation.
- Deployed applications using **Docker** containerization and **Kubernetes** orchestration on cloud platforms.
- Configured cloud infrastructure on **AWS** and **Azure** platforms for scalable enterprise applications.
- Integrated **CI/CD pipelines** using **Jenkins** and automated workflows with **GitHub Actions**, **Maven** build automation, and **Git** version control for code collaboration.
- Implemented message queuing using **Apache Kafka** for asynchronous communication in distributed systems.
- Optimized application performance using **Redis** caching and **connection pooling** strategies.
- Implemented monitoring solutions using **AWS CloudWatch** and **Grafana** for system observability.
- Applied **circuit breaker patterns** and resilience engineering practices for system stability under high load conditions.
- Developed cross-disciplinary expertise in **computer vision, motion analysis, and cryptographic systems** with advanced algorithms for real-time processing.
- Implemented **JSON** and **XML** data validation for **RESTful web services** with comprehensive **API response testing** and data integrity verification.
- Applied **XPath** and **CSS selectors** for robust web element identification and automation script stability in dynamic web applications.
- Configured **Linux system administration** tasks on **Ubuntu** and **CentOS** environments with **shell scripting** for deployment automation.

Technical Skills

Programming Languages	Java, JavaScript, TypeScript, Python, SQL, HTML5, CSS3, C++, Ruby
Enterprise Frameworks	Spring Boot, Spring Security, Spring MVC, Spring Batch, Hibernate/JPA, Angular, React, Node.js, Django, Flask, RESTful APIs, Microservices Architecture
Database Technologies	PostgreSQL, MySQL, MongoDB, Oracle, Redis, SQL Server, SAP BODS, Database Design, Query Optimization, Indexing
Cloud & DevOps Platforms	AWS (EC2, S3, RDS, Lambda, CloudFormation, API Gateway, CloudWatch), Azure (AKS, App Service), Docker, Kubernetes, Terraform, Jenkins, GitHub Actions, CI/CD Pipelines
Security & Authentication	OAuth 2.0, JWT, Spring Security, BCrypt, SSO, RBAC, Secure SDLC, API Security, Data Encryption
AI & Machine Learning	TensorFlow, Scikit-learn, OpenCV, MediaPipe, Computer Vision, NLP, Predictive Analytics, Motion Recognition, Inverse Kinematics
Development Tools & IDEs	IntelliJ IDEA, Eclipse, Visual Studio Code, Maven, Gradle, Git, GitHub, GitLab, Bitbucket
Testing & Quality Assurance	JUnit, Unit Testing, Integration Testing
System Architecture & Design	Microservices, Event-Driven Architecture, API Gateway, Circuit Breakers, Load Balancing, Caching Strategies

Messaging & Communication	Apache Kafka, Confluent Kafka, Redis, Message Queues, Event Streaming, Asynchronous Processing
Project Management & Methodologies	Agile/Scrum, JIRA, Confluence, Sprint Planning, Code Reviews, Technical Leadership
Operating Systems & Environments	Linux (Ubuntu, CentOS), Windows, macOS, Unix, Command Line Tools, Shell Scripting

Education

Iowa State University, College of Arts and Sciences	Ames, Iowa
Master of Science in Computer Science (GPA: 3.7/4.0)	2023 – 2025

Professional Experience

State Farm Insurance	Bloomington, IL
Java Full Stack Developer	June 2024 – Present
Project: Enterprise Insurance Platform (Insurance Domain)	
<ul style="list-style-type: none">Developed enterprise microservices platform using Spring Boot and Hibernate/JPA, optimizing performance through advanced connection pooling and caching strategies.Implemented integration for policy, billing, and claims systems using secure REST/SOAP APIs with SSO, Spring Security, and JWT authentication.Developed full-stack applications using Angular 14+ and React 18, delivering responsive applications with advanced state management using NgRx and Redux and accessibility compliance for regulatory requirements.Implemented cloud-native deployment on Azure AKS with Docker containerization, establishing blue/green and canary release pipelines.Developed complex frontend components with TypeScript, implementing advanced features like lazy loading, code splitting, and progressive web app capabilities.Built responsive UI layouts using CSS Grid, Flexbox, and Bootstrap, ensuring cross-browser compatibility and mobile-first design principles.Implemented real-time data synchronization between frontend and backend using WebSocket connections and server-sent events for live policy updates.Implemented comprehensive observability framework using AWS CloudWatch and Grafana, implementing circuit breakers and resilience patterns to achieve 99.9% uptime.Implemented automated testing with JUnit for unit and integration testing, reducing production defects by 85%.Created comprehensive API documentation using Swagger/OpenAPI 3.0, enabling efficient collaboration between frontend and backend development teams.Optimized frontend performance through implementation of virtual scrolling, memoization techniques, and bundle optimization, reducing page load times by 45%.Implemented scalable event-driven architecture using Apache Kafka, enabling real-time data processing across distributed insurance systems.Implemented advanced security measures including CSRF protection, XSS prevention, and input validation across all application layers.Developed custom Angular directives and React hooks for reusable business logic, reducing code duplication by 60% across different modules.Implemented API rate limiting and throttling mechanisms to ensure fair usage and prevent system abuse during peak traffic periods.Optimized database queries and implemented database sharding strategies to handle increasing data volumes efficiently.	
ADP	Hyderabad, India
Java Backend Developer	June 2022 – Aug 2023
Project: ERP Modernization and Lien Management System (Payroll Domain)	
<ul style="list-style-type: none">Developed Spring Boot microservices integrating with ERP systems, handling payroll data processing workflows and requirements analysis.Contributed to migration strategy from MuleSoft to Spring Boot microservices, implementing key components and improving system maintainability by 30%.Implemented event-driven communication patterns using Confluent Kafka for asynchronous messaging, enhancing system scalability and reliability.Built secure REST APIs with OAuth2/JWT authentication, implementing security best practices for sensitive payroll data compliance.Developed dynamic React interfaces using TypeScript and modern hooks, enabling HR teams to manage complex lien workflows efficiently.Implemented advanced data grids and forms with filtering, sorting, and pagination capabilities, improving user experience and data management.	

- Created **real-time dashboards** for payroll analytics using **D3.js and Chart.js**, providing actionable insights into processing metrics.
- Built **reusable validation libraries** with custom business rule validators, ensuring data integrity and regulatory compliance across modules.
- Optimized **ERP data processing** using **Spring Batch and custom schedulers**, achieving **30% reduction** in processing latency through performance tuning.
- Implemented **API gateway patterns** with rate limiting and throttling mechanisms, ensuring optimal traffic management and system stability.
- Enhanced data storage performance using **MongoDB optimization and Redis caching strategies**, reducing API response times by **40%**.
- Developed **comprehensive API endpoints** with standardized error handling, input validation, and consistent response formats across services.
- Managed **complex database transactions** using **Spring Transaction Management**, ensuring data consistency across distributed operations.
- Built **automated data transformation pipelines** for legacy system modernization, converting payroll data to standardized JSON schemas.
- Actively contributed to **CI/CD pipeline optimization** using **Jenkins and Kubernetes (OCP)**, improving deployment reliability and scaling capabilities.
- Implemented **observability solutions** with comprehensive logging and monitoring frameworks for proactive troubleshooting and performance analysis.
- Developed **test automation suites** covering unit and integration testing for continuous delivery workflows.
- Created **reusable Spring Boot components** and starters for common functionality, promoting code consistency and development efficiency across teams.

Life Insurance Corporation of India

Hyderabad, India

Java Full Stack Developer

July 2020 – May 2022

Project: Insurance ERP Policy and Payment Management System (Insurance Domain)

- Developed **ERP modules** for policy and payment processing using **Java, Spring Boot, and Hibernate**, working under senior developer guidance to understand business requirements and coding standards.
- Built **RESTful APIs** to integrate customer workflows with internal systems, learning API design principles and best practices.
- Created **Angular-based forms and dashboards** with responsive layouts, implementing client-side validation and basic routing for back-office operations.
- Developed **customer-facing web pages** using **Angular and Bootstrap**, enabling policyholders to view policy information and make payments.
- Built **web interfaces** using **HTML5, CSS3, and JavaScript**, focusing on responsive design fundamentals.
- Designed **Oracle database tables and relationships** following established schemas, writing optimized SQL queries with guidance from senior developers.
- Developed **Spring MVC controllers** with standard exception handling patterns and CRUD operations for policy management.
- Implemented **Spring Security** configurations for user authentication and session management.
- Worked with **Hibernate annotations** and JPA mappings for entity relationships and database interactions.
- Gained experience deploying applications to **development environments** using **Docker containers** and learning cloud deployment basics.
- Actively participated in **Agile ceremonies**, contributing to daily standups and sprint retrospectives while learning development methodologies.
- Managed code using **Git version control** and contributed to team repositories, following branching strategies and code review processes.
- Contributed to **unit testing** efforts using **JUnit**, learning code coverage best practices and integration testing fundamentals.