

Karandeep Bhardwaj

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SUMMARY

Senior Full-Stack Engineer with 7+ years architecting scalable, AI-powered systems and cloud-native applications. Specialized in **LLM-based agentic workflows**, **serverless architecture**, and microservices processing 600k+ daily requests. Expert in **AWS (Bedrock, Lambda, Lex)**, modern full-stack development (Python, TypeScript, React), and building production **multi-agent AI systems**. Proven track record delivering **80% cost reductions** through intelligent automation and mentoring high-performing engineering teams.

TECHNICAL SKILLS

Languages: Python, TypeScript, JavaScript, Java, Golang, SQL (Postgres), Ruby on Rails (Basics)
Frameworks: React, Next.js, Vue, Node.js, Express, Django, Kafka, GraphQL, Tailwind
AI/ML: LangGraph, LangChain, Amazon Bedrock, Model Context Protocol (MCP), Prompt Engineering
Cloud: AWS (Lambda, Bedrock, Lex, DynamoDB, S3, SNS, SQS), Docker, Kubernetes, Terraform, Jenkins, OpenShift
Architecture: Microservices, Serverless, Event-Driven, Multi-Agent Systems, Agentic Workflows

EXPERIENCE

Lead Software Engineer Nov 2021 – Present
SunLife Financial

- Architected AI-powered call routing system using **LangGraph + LLM** reducing contact center costs by **80%** with intelligent authentication workflows processing retirement plan inquiries.
- Designed **Model Context Protocol (MCP)** integration enabling dynamic tool orchestration across multi-agent systems with 3-tier authentication (identify/single/multi-factor).
- Led migration from legacy systems to **serverless architecture** processing 600k+ daily requests achieving **100% availability** with 30% lower latency.
- Implemented **agentic workflow using Amazon Bedrock** with DynamoDB state persistence, routing 15+ retirement plan categories through intelligent conversation flows.
- Optimized **AWS End User Messaging SMS** integration and multi-Lambda orchestration (Lex, ANI lookup, OTP verification) reducing authentication resolution time by **65%**.
- Mentored 5+ developers in **LLM-based system design**, serverless best practices, and AI agentic patterns.

Full Stack Engineer Jan 2021 – Nov 2021
Tecsys Inc.

- Architected cloud-native microservices from monolithic system using **event-driven architecture**, improving scalability to handle **50x concurrent requests** and increasing performance by **85%**.
- Led front-end modernization using **Storybook and atomic design principles** for component-based architecture, boosting development velocity by **25%** and improving developer experience.
- Engineered end-to-end customs compliance microservice using **AWS SAM, Lambda, SQS, and S3** with SFTP integration, delivering **\$900K annual cost savings**.
- Implemented comprehensive testing strategy using **Test-Driven Development (TDD)** with Jest and k6 load testing, ensuring system resilience during high-traffic events.
- Enhanced security through **OAuth implementation** for carrier integrations, managing secure token lifecycle.

Full Stack Engineer Jan 2020 – Jan 2021
BIDGALA

- Developed an e-commerce social platform, creating scalable full-stack web applications and RESTful APIs using Python (Django) for backend and React for frontend, deployed on AWS, while guiding 3 junior developers.

Software Developer Jan 2017 – Aug 2018
Unisys Pvt. Ltd.

- Developed enterprise applications in cross-functional Agile teams, establishing foundation in software development best practices and tooling.

EDUCATION

Concordia University Montreal, Canada
Master of Computer Science Jan 2019 – Dec 2021

Chandigarh Engineering College Chandigarh, India
Bachelor of Computer Science Aug 2013 – June 2017

CERTIFICATON

AWS Solutions Architect - Associate Nov 2023