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masilamani (LinkedIn)
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coach (Personal)

Top Skills

Artificial Intelligence (AI)
Software Development
Coaching

Languages

English (Full Professional)
Tamil (Native or Bilingual)

Certifications

Architecting with Google Kubernetes
Engine Specialization
Developing Applications with Google
Cloud Specialization
Associate Certified Coach (ACC)

Premkumar Masilamani

Software Architect & Engineering Leader | 20+ Years Building Cloud
Platforms, Distributed Systems & Scalable Products | AI-Driven
Development | ICF Life Coach
Coimbatore, Tamil Nadu, India

Summary

I am a Software Architect and Engineering Leader with more than 20 years of experience building large-scale software systems across financial services, retail, automotive, architecture engineering and construction (AEC) and enterprise SaaS. Throughout my career, I have worked across the full spectrum of software engineering, from hands-on development and system design to cloud architecture, platform engineering and technical leadership. I've helped build and modernize systems for global organizations including American Express, Toyota Financial Services, Tesco, Mastercard, Ericsson, and high-growth technology startups. My technical focus areas include:

- Distributed Systems & Backend Engineering
- Cloud Architecture (AWS & Google Cloud)
- Kubernetes & Infrastructure as Code
- Platform Engineering
- Microservices & API Design
- Engineering Leadership & Team Development

I enjoy tackling complex technical challenges where architecture, business requirements, and execution must align. Whether designing cloud-native platforms, building developer tooling, optimizing large-scale workloads, or leading engineering teams through transformation, I focus on delivering systems that are reliable, scalable, and maintainable. More recently, I have been exploring how AI can augment software development, engineering workflows, and product delivery and to improve developer productivity. I am particularly interested in opportunities involving platform engineering, backend systems, cloud-native architectures, and technical leadership. Technology changes rapidly. The fundamentals of building great software do not. I enjoy operating at the intersection of both.

Experience

Sabbatical & AI-Driven Product Development
January 2024 - Present (2 years 8 months)

India

Planned sabbatical to pursue life coaching (ICF Certified) and delivered 250+ coaching hours to tech leaders across multiple industries.

Built two SaaS products using AI:

- Alpha Flow (a U.S. equities trade signal platform).
- Peer Coaching Network (a scheduling platform for trainee coaches).

Sibros

3 years 10 months

Senior Solutions Architect

January 2023 - November 2023 (11 months)

San Jose, CA

Professional Activities:

- Strategic Deal Closing and Customer Engagement: He moved beyond pure technical architecture to drive business growth. He established and led a Solutions Architecture team that focused specifically on customer engagement and solution prototyping. This strategic initiative was directly credited with contributing to a significant increase in closed deals by bridging the gap between complex automotive requirements and the platform's capabilities.
- API Management and Customer Success: He managed the public API, ensuring documentation remained up-to-date and collaborating directly with customers to implement complex workflows.

Senior Software Engineer

February 2020 - December 2022 (2 years 11 months)

San Jose, CA

Professional Activities:

- Cloud Infrastructure and Security: He designed and implemented cloud infrastructure using Infrastructure as Code (IaC), which facilitated the scalable and secure deployment of the Sibros Cloud Platform across both AWS and GCP.
- Microservices Development: He developed core libraries and cloud-native microservices, creating customized environments for enterprise customers to improve deployment efficiency.
- Vehicle Diagnostics: He led the design and implementation of ODX, a system that enabled remote diagnostics for millions of vehicles and significantly reduced diagnostic downtime.

- Engineering Management: He built and mentored a global team of backend and infrastructure engineers, enhancing platform security and scalability while reducing the time required for incident resolution.

HELIX RE

2 years 5 months

Co-Founder & Director of Engineering

January 2019 - February 2020 (1 year 2 months)

San Mateo, California, United States

Professional Activities:

- Platform Development and Growth: He co-founded the Helix RE platform and was instrumental in growing it from its initial inception to achieving over \$1.5 million in realized revenue.
- Geometry Generation Pipelines: He developed pipelines to create and preview 3D models, which successfully reduced the creation time for these models from 8 weeks to just 5 days.
- Data Processing and QA: He architected streamable PDAL pipelines for consistent processing of multi-billion point clouds with zero failures and developed an automated deviation detector for 3D models that reduced QA efforts significantly.

Co-Founder & Senior Software Engineer

October 2017 - January 2019 (1 year 4 months)

San Mateo, CA

Professional Activities:

- Cloud Infrastructure: He architected and implemented the platform's cloud infrastructure using Infrastructure as Code (IaC) to ensure seamless scalability and reduce operational costs.
- Serverless and Kubernetes Solutions: He designed and implemented a serverless solution on Kubernetes capable of processing massive parallel workloads (up to 75 GB) for multi-billion point clouds.
- Cluster Management: When a managed service was unavailable, he manually built a Windows Kubernetes Cluster using virtual machines.
- Graph Data Modeling: He co-created an open data model to represent buildings as graphs within a graph database.

Ericsson

Cloud Architect

April 2017 - October 2017 (7 months)

Santa Clara, California, United States

Consultant for Ericsson, engaged through Adya Labs

Professional Activities:

- Containerization and Orchestration: He successfully Dockerized major Big Data components, including Hadoop and Spark, and deployed them into Kubernetes using Google Kubernetes Engine (GKE).
- Infrastructure Optimization: By implementing these containerization efforts, he optimized the resource utilization of Ericsson's in-house servers.
- Networking Research: He conducted specialized research into Ontology-based Knowledge Graphs for networking components.
- Natural Language Processing (NLP) Development: He developed Sparkflow nodes that utilized StanfordNLP to infer and extract information from existing text dumps.

Ayda Labs

Software Architect

March 2017 - October 2017 (8 months)

Fremont, California, United States

- Contracted to Ericsson

Tesco

1 year 7 months

Software Architect

May 2016 - February 2017 (10 months)

Welwyn Garden City, England, United Kingdom

Consultant for Tesco, engaged through Sapient Consulting

Professional Activities:

- Managed the backbone of online grocery shopping (Project Bumblebee), which included a suite of microservices for delivery slot availability, order acceptance, and van route optimization.
- Designed and built the complete AWS infrastructure from scratch, including VPCs, subnets, Route Tables, Internet Gateways (IGW), and NAT Gateways for both production and lower environments.
- Automated the provisioning and management of cloud resources using Infrastructure as Code (IaC) with Ansible 2.0 and CloudFormation.
- Developed Spring Boot-based REST APIs deployed as microservices to handle high-volume retail transactions.
- Optimized van scheduling efficiency to support same-day, one-hour delivery slots.

- Led the strategic transformation of legacy applications into the Tracking API, a microservices-based system capable of tracking parcels and movable assets across multiple business lines.
- Implemented AtomHopper to provide real-time status updates as a feed to external developers and other retailers.
- Utilized NginX as a reverse proxy to manage and serve internet traffic for the strategic APIs.
- Managed system monitoring and observability using Splunk for log querying and dashboard creation, alongside AppDynamics for performance tracking.
- Established S3 versioning and lifecycle management policies to optimize cloud storage usage and costs.
- Coached development teams on industry best practices, specifically Clean Coding principles and Test-Driven Development (TDD).

Software Architect

August 2015 - April 2016 (9 months)

Bengaluru, Karnataka, India

Consultant for Tesco, engaged through Sapiient Consulting

Project: Tracking API

- Microservices Transformation: He led the transformation of legacy applications into API-based microservices using Java 8 and Spring Boot, moving away from traditional war deployments.
- API Development: Within a single sprint, he created the core application with a single API that conformed to industry standards, allowing the retailer to eventually expose these services to outside developers and other retailers.
- System Optimization: He optimized the data flow between the Tracking API and the legacy PTE over HTTP interactions.
- External Integration: He incorporated NginX as a reverse proxy to serve internet traffic and utilized AtomHopper to provide status updates as a feed to the outside world.

Project: Bumblebee

- Service Suite: The project involved a suite of microservices that provided available delivery slots to the website, accepted orders, scheduled van deliveries, and optimized routes to reduce time and cost.
- Cloud Hosting: The applications were written in Java and Python and hosted within an Amazon Web Services (AWS) environment.

Cloud Infrastructure and Automation:

- Infrastructure as Code (IaC): He automated AWS infrastructure management and provisioning using Ansible and CloudFormation.
- Network Setup: He built the complete infrastructure from scratch, including the creation of VPCs, Subnets, IGW, and NAT Gateways for both production and lower environments.
- Storage and Monitoring: He implemented S3 versioning and lifecycle management to optimize usage and used Splunk to query logs, create dashboards, and set up system alerts.
- Team Leadership: He coached the development team on Clean Coding principles and Test-Driven Development (TDD).

Sapient Consulting

Manager, Technology

November 2013 - February 2017 (3 years 4 months)

Bengaluru, Karnataka, India

- Contracted to MasterCard: Led the redesign of the Priceless Cities application using Adobe AEM.
- Contracted to TESCO: Managed the Parcel Tracking Engine (PTE) and Pricing Services projects.
- Contracted to Salesforce: Architected marketing solutions for 12 different clients within the Salesforce Marketing Cloud (SFMC).
- Contracted to TESCO: Led the Bumblebee and Tracking API projects, transforming legacy applications into AWS-hosted microservices.

Salesforce

Salesforce Consultant

March 2015 - August 2015 (6 months)

Greater London, England, United Kingdom

Consultant for Salesforce, engaged through Sapient Consulting

Professional Activities:

- Architected and managed marketing solutions for 12 different clients over the six-month period, maintaining a high throughput of approximately two weeks per implementation.
- Directed the work of technical architects from multiple vendors to ensure project delivery remained on time and within budget.

- Handled the full project lifecycle for client assignments, including initial meetings, requirement gathering, blueprinting, implementation, and final handover.
- Designed and implemented automated marketing features such as email campaigns and drip campaigns within the Salesforce Marketing Cloud (SFMC).
- Successfully learned and implemented advanced SFMC tools, including Journey Builder and Audience Builder, for clients without undergoing formal training.
- Integrated Salesforce CRM (SFDC) with Salesforce Marketing Cloud (SFMC) using V5 connectors for specific client needs.
- Provided innovative and simplified technical solutions that received multiple client appreciations.
- Documented every architectural activity in detailed "Blue Prints" to ensure effective solution handovers to clients.

Tesco

Software Architect

May 2014 - February 2015 (10 months)

Bengaluru, Karnataka, India

Consultant for Tesco, engaged through Sapiient Consulting

Professional Activities:

- Exposed a REST service capable of providing the latest prices for items from an XML processing millions of records per day.
- Trained a team of Java developers on Dropwizard, Couchbase, Git, and Agile methodology within a single two-week sprint.
- Completed the application design while training was ongoing to allow the team to begin development immediately.
- Facilitated daily scrum stand-ups with clients to accommodate requested changes and ensure on-time delivery of marketable software.
- Developed and deployed PTE Sequencing and Locker Integration during a short development sprint.
- Resolved "Hung Threads" in listeners, enabling prompt status updates and reducing PTE reconciliation issues.
- Identified and fixed Out of Memory (OOM) errors that had previously necessitated frequent application restarts.
- Implemented archive and purge logic within the Oracle database to maintain system efficiency.

- Fine-tuned JVM parameters and optimized application logs to prepare for massive traffic surges during the Christmas period.

Mastercard

Software Architect

December 2013 - April 2014 (5 months)

Bengaluru, Karnataka, India

Consultant for Mastercard, engaged through Sapient Consulting.

Professional Activities:

- Directed the comprehensive redesign of the J2EE-based Priceless Cities application to an Adobe AEM-based platform.
- Researched and selected appropriate social APIs and frameworks for the client's specific business requirements.
- Designed and implemented AEM components for Twitter and Instagram feeds to display market-specific hashtag content.
- Developed an AEM component using the Google Feeds API to aggregate and display external news articles and blogs.
- Engineered a SOAP web services client using Apache CXF to facilitate third-party system integration.
- Managed project delivery within a high-pressure environment utilizing the Scrum agile methodology.

Tata Consultancy Services

9 years 1 month

Assistant Consultant

July 2012 - November 2013 (1 year 5 months)

Bengaluru, Karnataka, India

- Contracted to Legal and General.

IT Analyst

February 2010 - July 2012 (2 years 6 months)

Bengaluru, Karnataka, India

- Contracted to American Express Technologies.
- Contracted as a non-billable resource for the Technology Excellence Group (TEG), supporting 16 Banking and Financial Services clients including Farm Credits Canada, Ameriprise Financials, and Toyota Financial Services.
- Contracted to Toyota Financial Services.

- Contracted to Legal and General.

During his time in TEG, Premkumar served as a Technical Architect for Mobile Technologies, focusing on innovation and cross-client support.

Role and Responsibilities:

- Acted as a specialized non-billable resource providing technical assistance to 16 different clients under the BFS 1.1 division.
- Researched emerging technologies and developed prototypes to evaluate their technical feasibility for business use.
- Pitched developed prototypes to potential clients to secure new project engagements.
- Organized and conducted road shows and educational sessions to train BFS developers on mobile technology applications.
- Engineered a mobile website prototype for Farm Credits Canada to demonstrate mobile user experience and functionality.
- Designed and built the "Trip Expense Manager" for BlackBerry OS 4.5+ to build team competency in BlackBerry application development.
- Developed a fully functional BlackBerry application proof-of-concept for American Express that utilized live production data via web services.
- Published technical articles and best practice guides to the TEG Knowledge bank for internal knowledge sharing.

Asisstant Systems Engineer

November 2005 - January 2010 (4 years 3 months)

Bengaluru, Karnataka, India

Contracted to American Express Technologies.

Asisstant Systems Engineer - Trainee

November 2004 - October 2005 (1 year)

Bengaluru, Karnataka, India

Contracted to American Express Technologies.

Legal & General

Technical Architect

December 2011 - November 2013 (2 years)

Redhill, England, United Kingdom

Consultant for Legal & General, engaged through Tata Consultancy Services

Professional Activities:

- Directed the as-is migration of over 150 J2EE applications from WebSphere 6 on Windows to WebSphere 8 on SUSE Linux.
- Grouped applications for migration based on business affinity, planned schedules, size, and technical complexity.
- Executed Proof-of-Concept migrations for multiple application tiers and established a centralized lessons-learned repository.
- Created the WAS 8 Migration Developer's Guide to provide detailed instructions for teams performing migrations.
- Developed custom shell scripts to replace legacy Windows batch scripts for the new Linux-based infrastructure.
- Engineered custom SOAP web services to resolve software incompatibilities during the transition to the Linux environment.
- Scaled the Regular Event Processing application to support volume increases from 15K to 120K to meet new regulatory requirements.
- Optimized the insurance enrollment pipeline to achieve an 8x performance improvement for automated customer enrollment.
- Identified Hibernate performance bottlenecks and implemented optimized flows using Spring JDBC to enhance throughput.
- Traced and resolved critical heap memory issues through line-by-line code reviews and the IBM Heap Dump Analyser.

Toyota Financial Services

Software Architect

March 2011 - November 2011 (9 months)

Torrance, California, United States

Consultant for Toyota Financial Services, engaged through Tata Consultancy Services

Professional Activities:

- Facilitated client management and gathered requirements for the mobile web platform.
- Orchestrated communication between California-based clients and offshore teams in India to ensure alignment on project goals.
- Directed all phases of the software development lifecycle, including design, implementation, and testing.
- Identified and resolved a critical production defect that caused duplicate payment charges for mobile users.
- Leveraged Burp Suite to track mobile requests and isolate root causes related to specific device hardware.

- Executed rigorous manual testing on multiple mobile platforms including iPhone, Android, and Blackberry.
- Developed effort estimations for upcoming iPhone development projects to assist in business pitching.
- Coordinated project activities across two separate teams working on a unified codebase.

American Express

5 years 6 months

Technical Lead

June 2009 - July 2010 (1 year 2 months)

Bengaluru, Karnataka, India

Consultant for American Express, engaged through Tata Consultancy Services

Professional Activities:

- Collaborated with the middleware team to migrate MQ services from the MQSI 2.0 platform to WMB6 for the Acquisition Tracking System (ATS).
- Directed the end-to-end software development lifecycle, including analysis, design, building, and testing for the New Account Servicing Portal (NASP).
- Analyzed application impact and managed changes required for MQ upgrades and Mainframe SP modifications within Global New Accounts (GNA).
- Designed and developed 12 secure, lightweight RESTful web services from scratch to support the first AMEX iPhone application.
- Engineered a custom REST implementation using the FrontServlet framework and design patterns to overcome limitations in Java 1.3.
- Collaborated directly with mobile developers to ensure successful integration of secure services with the iPhone native application.
- Managed the complex migration of the AmexMobile website from an IBM WebSphere Application Server (WAS) 4 environment to WAS 6.1.
- Spearheaded the internationalization (i18n) of the mobile platform to support 21 international markets, including the launch of the UK mobile site.
- Finalized the new technology stack and oversaw the complete rewrite of core components and service calls during the platform migration.
- Coordinated multiple project teams working simultaneously on a shared code base to ensure milestone delivery without contention.
- Conducted formal quality and security reviews to maintain strict compliance with enterprise standards.
- Performed root cause analysis and resolved production issues during critical project warranty periods.

Production Support Lead

May 2007 - June 2009 (2 years 2 months)

Weston, Florida, United States

Consultant for American Express, engaged through Tata Consultancy Services

Professional Activities:

- Directed production support for the eCommunication Suite (eCS), which managed 13 applications for centralized email and SMS communications.
- Resolved critical application issues by facilitating bridge calls and conducting rapid root cause analysis.
- Managed offshore team coordination and task allocation to ensure operational requirements and customer expectations were met.
- Governed the lifecycle of environment upgrades, security patch installations, and digital certificate renewals.
- Monitored application capacity and implemented necessary upgrades to maintain system performance and stability.
- Maintained essential documentation including the Application Support Manual, Disaster Recovery Document, and Support Play Books.
- Tracked all incidents and problems using the MANAGE NOW system while adhering to standard change management guidelines.
- Executed technical bug fixes and application enhancements derived from specific business requirements.

Software Engineer

February 2005 - May 2007 (2 years 4 months)

Bengaluru, Karnataka, India

Consultant for American Express, engaged through Tata Consultancy Services

Professional Activities:

- Managed the migration of the Secure Message Center application from IBM WAS 3.5 to a WAS 5.0 environment.
- Executed all software development life cycle phases including analysis, design, build, and testing.
- Conducted formal compliance, quality, and security reviews for the messaging platform.
- Performed root cause analysis and resolved production incidents during the project warranty period.
- Developed custom application enhancements following the successful platform migration.
- Managed technical documentation for all analysis and implementation activities.

Education

University of Madras

Bachelor of Engineering, Computer Science · (2000 - 2004)