Manimaran Selvan

Software Architect / Engineering Leader

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Impact-driven Software Architect with 16+ years of experience in designing scalable cloud-native architectures, integrating AI solutions, and optimizing systems for performance and reliability. Proven track record in modernizing legacy systems, mentoring high-performing teams, and delivering innovative technologies that drive significant business value. Committed to fostering operational excellence and driving innovation for organizational success.

Skills

Programming Languages:
Java, Groovy, Python, JavaScript, TypeScript

Cloud Providers:
AWS, GCP

Search:
Amazon OpenSearch, ElasticSearch, Solr, Lucene

Framework/Libraries:
Spring, Spring Boot, Node.js, Angular, React

Containerization:
Docker, Kubernetes, EKS, ECS

Messaging:
Kafka, AWS Messaging

Source, Build & CI/CD:
Git, Github, Bitbucket, GitLab, Gradle, Maven, Jenkins

API / API Tech:
REST, Swagger, GraphQL

Collaboration & Productivity:
Jira, Confluence, ChatGPT, Google Workspace, MS365, Figma, Lucidchart, Grafana

Databases/Cache:
MySQL, PostgreSQL, MongoDB, DynamoDB, Redis, Memcache

Generative AI:
LangChain, LlamaIndex, GPT 3.5/4 APIs, Bedrock, FAISS, RAG, Fine-tuning, Prompt engineering

Architecture:
TOGAF, ArchiMate, UML, C4 Models, BPMN, ERD, ADR, DDD, Microservices, Sparx Enterprise Architect

AWS Services:
EC2, EBS, EFS, AMI, S3, IAM, VPC, API Gateway, ECS, EKS, Fargate, Lambda, AppSync, Amplify, Step Functions, Cost Explorer, Cost and Usage Reports (CUR), Cognito, CloudFormation, Cloudwatch, Cloudtrail, SNS, SES, SQS, RDS/Aurora, DocumentDB, DynamoDB, ElastiCache, OpenSearch, Quicksight

Soft skills:
Strategic Planning, Leadership & Team Collaboration, Agile & Lean Methodologies (Scrum, Kanban), Continuous Improvement, Product Vision & Mission, Vendor Management, Stakeholder Management, Change Management, Testing Methodologies, Decision Making, People Management, Coaching/Mentoring, Crossfunctional Collaboration, Conflict Resolution

Certification

AWS Certified Solutions Architect - Professional   *Sep 27, 2024 — Sep 27, 2027*
Validation Number: e478210227fd46fdaccc48b5e403dba0

Experience

IT Consultant (Software Architect)   *Jul 2023 — Present*
Pragya Consulting Services | Brussels, Belgium

On-shore from Jul 2024 — Delivered innovative cloud and AI solutions, serving as a hands-on architect and technical expert. Focused on designing robust, scalable architectures and solving complex technical challenges.

- Designed and deployed scalable, cloud-native architectures on AWS, optimizing performance, fault tolerance, and cost-efficiency for diverse enterprise use cases.
- Developed AI-driven solutions utilizing LLaMA models, integrating them with custom retrieval-augmented generation (RAG) pipelines to enable intelligent, context-aware decision-making.
- Enhanced team productivity by introducing streamlined CI/CD workflows and ensuring alignment with Agile methodologies.
- Conducted code reviews, architecture validations, and cloud cost audits to ensure robust designs and operational efficiency.

Technical Product Manager (Software Architect)
Aug 2017 — Jun 2023

Trilogy Enterprises | Austin, Texas (Remote)

Led cost-saving initiatives, architected and developed CloudFix, and improved work allocation and delivery processes. Co-managed TPMs and spearheaded cutting-edge product development using modern AI technologies.

- Achieved $15M savings in 3 months by developing CloudFix, leading to over $100M in cumulative savings for customers.
- Designed and developed an AI-powered chatbot for CRM, leveraging LangChain, GPT-3.5 API, and RAG to deliver intelligent, context-aware conversational capabilities. Achieved a 75% improvement in customer interaction efficiency and significantly reduced support overhead.
- Implemented lean software assembly lines for efficient work delivery through well-defined work units and 24/7 operations for a global workforce of over 5K.
- Co-managed 60+ TPMs, preparing for a VP role by working alongside the retiring VP.
- Developed tools for specification ordering, search, ranking, and CTO boot camps using AWS technologies, reducing operational overhead by 75%.

Lead Software Engineer
Jan 2015 — Aug 2017

Trilogy Enterprises | Austin, Texas (Remote)

Centralized IT operations, managed senior SREs, automated processes, contributed to tools architecture and development, and handled M&A activities

- Centralized IT operations for a global workforce of 5K+, achieving 85% cost savings.
- Coached and managed 20+ senior SREs, enhancing their productivity by 4x.
- Authored M&A IT transition playbooks, integrating over 15 acquisitions.
- Implemented JIRA workflows and advanced automation, reducing operational overhead by 75%.
- Contributed to the development of VDI2, a web app for deploying AWS services with an audit trail, preceding AWS's comprehensive IAM and compliance features.

Technical Co-founder
Oct 2013 — Dec 2015

Tissow Technology Ventures | Chennai, India

Architected and developed Humingo, replatformed Ticketgoose, and optimized tech operations by switching cloud providers.

- Built Humingo, an e-commerce product discovery and aggregation platform, comprising a distributed crawler and product classifier, in 6 months using Cloudera Hadoop, Apache Solr, Lucene, HDFS, Zookeeper, and Kafka.
- Modernized Ticketgoose, a bus ticket booking platform, reducing operational complexity and improving user experience in 3 months using Spring framework.
- Reducing TCO by 50% by switching from AWS to Linode, and later moving back to AWS after the introduction of GP2 volumes.

Senior Associate
Dec 2011 — Oct 2013

Nallan Technology Ventures | Chennai, India

Architected and built Kachyng, a PCI-compliant mobile payments platform.

- Implemented single-click checkout, enhancing UX by reducing transaction time by 50%.
- Led the PCI compliance initiative, implementing encryption, tokenization, and rigorous security protocols to meet stringent security standards, successfully passing all compliance audits.

Technical Co-founder
Aug 2010 — Dec 2011

EMRG Software Solutions | Chennai, India

Led a 10-member team, architected, and developed 2 products in the financial information research space.

Systems Engineer & Java Application Developer
Aug 2008 — Aug 2010

YuMe | Chennai, India

Managed infrastructure and automated deployments across 6 environments, overseeing production deployments, migrations, and daily DevOps tasks. Conducted R&D in early mobile technologies, developed native apps, and created proof-of-concepts using Google Web Toolkit.

Education

B.Sc Computer Science
2008

Bharathidasan University | Trichy, India