Chetan Kerhalkar

Technology Director | VP of Product Engineering | Director Software Engineering | Enterprise Solution Architect

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Summary

Dynamic Technology Director with over 17+ years of experience specializing in digital transformation across Telecom, Insurance, Finance, Digital Commerce, Higher Education, and culinary industries. Expert in Agile methodologies, Azure Cloud, Generative AI, and Microservices architecture. Proven track record of delivering strategic growth through innovative technological solutions and leadership in multi-disciplinary teams.

Key Skills

- **Cloud Computing:** Azure Cloud, Azure AI, Generative AI, AWS, Amazon Bedrock
- **Generative AI Frameworks:** Lang Graph RAG, Lang Chain, LLAMA Index, AutoGen
- **Software Development:** Microservices, Asp.net Core, C#, Python, Node.js
- **Data & Analytics:** Machine Learning, Deep Learning, SQL Server, Cosmos DB
- **Web & Mobile Development:** Angular, ReactJS, Xamarin, Flutter
- **DevOps:** Azure DevOps, Jenkins, Terraform, GitHub Actions
- **Gen AI/Machine Learning:** LLMs & AI Tools: GPT-4o, Mistral, Phi-3, Gemini, Microsoft Copilot, Microsoft Magnetic One, Bot Framework, Reinforcement Learning, Regression, TensorFlow, Azure Open AI, Azure Machine Learning, Azure Cognitive Services.
- **AI Techniques:** Vector RAG, Graph RAG
- **Project Management:** Agile, Waterfall, Agile Framework.
- **Leadership:** Managed teams of 50+ engineers and architects across diverse projects.

Professional Experience

Technology Director, Leadership Sr. Manager

Fulcrum Digital, Chicago, IL | September 2017 – Present

- Directed cross-functional teams of 50+ members, including solution architects, technical leads, developers, and quality analysts, to deliver enterprise-grade solutions across industries.
- Collaborated directly with the CTO and CEO to align technology initiatives with business objectives and innovation strategies.
- Spearheaded the development of the Ryze Generative AI platform, enabling multi-modal capabilities and industry-specific solutions.
- Played a Technology Director role in organizational transformation by introducing FulcrumOne low-code platforms, improving developer productivity by 40%.

- Headed solutioning efforts, providing strategic direction for client projects, including architecture design, platform scalability, and technology stack selection.
- Established and managed technical excellence within the organization by leading a panel of architects and driving best practices.
- Developed cost optimization strategies for cloud platforms, achieving a 25% reduction in operational expenditure.
- Built and deployed reusable, configurable components to accelerate product development cycles.
- Implemented DevOps practices, leveraging CI/CD pipelines with Azure DevOps and GitHub Actions to enhance efficiency.
- Managed pre-sales activities, including crafting SOWs, project estimations, and proposals tailored to client needs.

Software Developer, Senior Software Developer, Technical Architect

Various Roles | May 2008 – September 2016

- Led architecture and development for key projects across Telecom, Insurance, and Higher Education domains.
- Designed scalable solutions using .NET Core, Python, JavaScript, Nodejs, Angular, and ReactJS, Vue.js, SQL Server, Cosmos DB, Mongo DB, Postgres SQL addressing diverse client needs.
- Championed Agile methodologies, implementing efficient sprint planning and team coordination practices.
- Mentored junior developers, fostering a culture of technical excellence and continuous learning.
- Delivered end-to-end ownership of project lifecycles, from inception to deployment, ensuring adherence to quality and timelines.

Projects

1. Ryze Platform

Type of Work: Ideation, Solutioning, Revenue Targets, Lead Delivery and Build of the Ryze Generative AI Platform
Description:

- Developed and implemented the Ryze Generative AI Platform with a multi-technology stack including .NET, Node.js, Python, and ReactJS.
- Integrated AI and machine learning capabilities into the platform for intelligent automation.
- Deployed 30+ AI Agents across industries such as Insurance, Finance, Education, and Culinary.
- Designed and implemented an HR Assist Agent for a Furniture Industry client.

Impact:

- Enabled rapid adoption of AI-driven processes in daily operations for various clients.
- Increased productivity by providing AI Agents to streamline business processes across different industries.

Tech Stack:

- **Frontend:** ReactJS
- **Backend:** .NET, C#, Node.js, Python
- **Deployment:** Multi-cloud architecture (Azure, AWS, Google Cloud) with optimized GPU usage.
- **Models Utilized:** GPT-4o, Mistral, Claude Sonnet 3.5, LLAMA 3.2, Gemini, SLM models like Phi-3, Gemini-mini.

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2. FulcrumOne Multi-Technology Low-Code Platform Development

Type of Work: Ideation, Solutioning, Revenue Targets, Lead Delivery and Development
Description:

- Led the development of FulcrumOne's low-code platform, supporting diverse industry use cases.
- Developed microservices-based workflow orchestration using .NET (C#), Node.js, Java, and Python.
- Implemented dynamic UI creation with ReactJS, Angular, and Vue.js to support multiple front-end options.

Impact:

- Reduced application development cycles by 50-70%.
- Empowered business users to create workflows without advanced coding skills.

Tech Stack:

- **Frontend:** ReactJS, Angular, Vue.js
- **Backend:** .NET Core, Node.js, Java, Python
- **Database:** Azure SQL, Cosmos DB, PostgreSQL, MongoDB
- **Cloud:** Azure, AWS, Google Cloud

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3. FulcrumOne Generative AI-Based DevAssist Agent

Type of Work: Ideation, Solutioning & Development of AI-powered IDE Extension
Description:

- Designed and developed a Node.js-based VS Code and Visual Studio 2022 extension leveraging Generative AI models like GPT-4o and Code Llama.
- Integrated AI to assist developers with real-time code generation, unit tests, and refactoring suggestions.
- Implemented SonarQube issue detection and resolution directly within the IDE.
- Enabled AI-powered SQL schema and stored procedure analysis with explanations using Generative AI.

- Developed an anomaly detection system for SQL, Cosmos DB, and Aurora DB, enabling automated data normalization.

Impact:

- Accelerated developer productivity and improved code quality.
- Reduced onboarding time for new developers by integrating AI-driven assistance into their workflow.

Tech Stack:

- **Extension Build:** Node.js, .NET (C#), Python
- **LLM:** GPT-4o, Code LLAMA (deployed on Azure Cloud)
- **Cloud Platforms:** Azure

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4. FD Verbi AI – Grammar and Spell Check Tool

Type of Work: AI-Based Grammar and Spell Check for Legal Industry
Description:

- Developed a ReactJS-based grammar and spell-check component using LLMs like GPT-4o and Phi-3.
- Enhanced AI capabilities to handle poorly written legal content through advanced prompt engineering.
- Integrated industry-specific models for precise American English grammar and spell checking.

Impact:

- Improved document quality for legal professionals, reducing manual editing time.
- Seamlessly integrated into existing legal workflows for efficiency.

Tech Stack:

- **Frontend:** ReactJS
- **Backend:** C#, ASP.NET Core
- **AI Models:** GPT-4o, Phi-3
- **Cloud:** Azure OpenAI

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5. Live Cricket Commentary Generation App

Type of Work: AI-Driven Sports Technology Development
Description:

- Developed a multi-lingual cricket commentary app using GPT-4o during a hackathon.
- Enabled real-time commentary generation in English, Hindi, and Marathi.

- Implemented dynamic text-to-speech with six voice options and custom shot commentary features.

Impact:

- Revolutionized fan engagement with personalized and immersive cricket commentary.
- Showcased innovative AI capabilities in the sports technology domain.

Tech Stack:

- **Frontend:** ReactJS
- **Backend:** Python, Node.js
- **AI Models:** GPT-4o, Azure AI Text-to-Speech
- **Deployment:** Azure Cloud

Education

Master's in computer science: Pune University, Pune, India | 2007

Bachelor's in computer applications: Pune University, Pune, India | 2005

Certifications:

Azure Solutions Architect

Azure AI Engineer Associate

FinOps Certified Practitioner

Career Essentials in Generative AI by Microsoft and LinkedIn