Vageesh Dwivedi

AI and ML ENGINEERING LEADER

(408) 679-6025
vageesh.dwivedi@gmail.com

A seasoned leader with 20 years of experience in AI/ML powered digital solutions, Scaling and building passionate teams, and innovating Conversational AI and Contact Center software solutions. A people person with emotional intelligence, a goal-oriented leadership style, and a focus on engineering effectiveness.

CORE SKILLS

Conversational AI | Contact Center Software | Applied AI - RAG, Langchain, Agentic flows | Generative AI | Large Language Models | Supervised Learning | Unsupervised Learning | Javascript & Nodejs | Kubernetes | CICD | Quality and Performance

EXPERIENCE

Campbell, CA — *Director, Software Development*

Nov 2015 - PRESENT

24 engineers in 3 Geos, Bot Builder tool, NLP (Intent Classification Model, Model Training), RAG-based Q&A, Flowize.ai, Autogen agentic flows, langchain, Llamaindex, Declarative ML, MLOps, Embedding vectors, MLFlow Registry, Prompt Management, LLM Inference and serving. Business Messaging Platform, UI frameworks, Telemetry, Cloud Cost optimization, Accessibility, Enterprise Security, CICD, Kubernetes, Engineering Best Practices.

Bengaluru, India — *Manager, Software Development*

Dec 2010 - Nov 2015

HTML, Javascript, CSS, SVG, Frontend, jQuery, prototypejs, Web APIs, HandleBarsJS, BackBoneJS, MVC, SPA.

Bengaluru, India — *Technology Lead*

May 2008 - Dec 2010

Ad serving - contracts and campaigns. Tracking, Logging, and Monitoring. Automation Testing, Quality Mindset, Performance, Stability, Reliability with Scalability.

Bengaluru, India — *Application Developer*

Jan 2008 - May 2008

Market data feed - Order management, Reporting and Billing. OpenVMS, ProC, and shell scripts.

Chennai, India — *Programmer Analyst*

Jun 2004 - Jan 2005

Auction Industry, XML, XSLT, XMLC, Perl, Automation Testing, JUnit

PATENTS

System for handling multi-party interactions with agents of an enterprise and method thereof. (WO2021144723A1)

EDUCATION

National Institute of Technology, Tiruchirappalli, India
Bachelor of Technology (Electrical & Electronics), 2000 - 2004, GPA - 7.79/10

ACCOMPLISHMENTS

Autogen Agentic flows — *[24]7 Concierge*

Designed and implemented **Microsoft's Autogen-based agentic flows** for a **user concierge application**, enabling seamless **orchestration between traditional bots and human agents** to efficiently complete end-user tasks. By leveraging **multi-agent collaboration**, the system dynamically determined when to escalate complex queries to human agents while automating routine interactions. This approach is yet to be rolled out and monitored for results.

Flowize.ai Agent Assistant and trainer — *[24]7 Copilot*

Implemented **Flowize.ai chatflows** to automate training for newly inducted **contact center agents**, reducing onboarding time by 30%. Another chatflow functioned as a **real-time copilot** on the operations floor, providing **suggestive next-best responses**. This improved agent efficiency, with **60-70% of responses being used as-is or modified**, leading to a **10% decrease in average handling time** and a **boost in customer satisfaction scores**.

LLM Initiatives — *Prompt Management and LLM Inference/Serving*

On-prem hosting of promptfoo and langfuse for prompt management and litellm and vllm for LLM inference and serving.

Virtual Assistant Builder Tools — *[24]7 Engagement Cloud*

The tool transformed virtual assistant application development by replacing **engineering-heavy processes** with a **low-code, self-service platform** for conversation designers. This innovation **reduced development effort by up to 75%** and **turnaround time by 60-80%**, depending on the complexity of the virtual assistant change request. The tool also significantly streamlined workflows, empowering designers to implement changes faster while freeing up engineering resources for higher-value tasks.

RAG based Q&A — *[24]7 Answers*

The **AI-powered unified knowledge base** enabled **instant and accurate self-service** for customers and agents by **auto-updating** with data from **PDFs, text files, and HTML content**. Leveraging a **RAG-based pipeline**, the system efficiently handled **20-25% of intents**, reducing agent workload and improving response times. This resulted in a **10-15% lift in automation containment rate** and a **10% increase in CSAT**, ensuring seamless access to up-to-date enterprise information while optimizing conversational AI performance.

Cloud Cost Optimization — *GCP, Own Data Center and Azure*

The initiative to **reduce cloud costs** was executed in two phases. First, **standalone Java and Node.js applications** were containerized, and their runtime was migrated to **Docker Swarm**, optimizing resource utilization. A **declarative CI/CD framework** was implemented, streamlining release builds, artifact management, environment configurations, ACLs, and security filters.

In the second phase, **workloads** were transitioned from **Docker Swarm to Kubernetes**, enhancing scalability and operational efficiency. As a result, cloud costs were **reduced by 30% (and 40% in some cases) compared to deployment on VMs**, deployment time efficiency improved by **50-70%**, and security was strengthened, ensuring better resource management and resilience.

Common UI Controls Framework — *TFS UI*

I led the development of **TFS-UI**, an **internal reusable component library** designed to **streamline UI development** and **enhance application consistency**. Built from scratch, **TFS-UI** provides a standardized set of components that accelerate development, reduce redundancy, and improve maintainability. The library has been widely adopted across teams, significantly **reducing UI development efforts** and ensuring a **unified user experience** across multiple products.

Business Messaging Platform — *[24]7 Messaging*

Led **engineering management** for the **Messaging platform**, collaborating with partners such as **Apple** (Apple Messages for Business), **Google** (Google Business Messaging), and **Twilio** (Programmable SMS for businesses). With a team of **12 engineers** and experienced product owners, we successfully onboarded major businesses, transitioning them from **legacy IVR-based support** to **digital chat solutions**. This transition resulted in a **60% reduction in operational costs** while maintaining a **customer satisfaction rate above 70%** in alignment with the SLA.

Android and iOS SDK — *[24]7 Chat*

A **complex and breakthrough experiment** was conducted to create a **third-party Mobile SDK** for iOS and Android using **React Native**. The experiment was successful, leading to significant **consolidation of UI components** across the two platforms. However, it proved to be **high maintenance**, with frequent **dependency refreshes** requiring continuous attention and updates.

Web SDK — *[24]7 Chat*

Led the **concept-to-realization** of **247.ai's user-facing frontend UI framework**, which included a **ReactJS-Redux web single-page application** for use by brands and businesses as a third-party JS integration on websites or native apps. It started with conducting experiments with various frontend frameworks, including **React, Angular, and Ember**, to make strategic decision for 247.ai's frontend UI engineering teams. Ultimately, **ReactJS** was chosen as the preferred framework.

Flash app to HTML conversion — *[24]7 WowPx*

For the first time, I experimented with **JavaScript, CSS, HTML**, and **SVG** through projects like building a **mobile bill estimator slider** which was to **rebuild an existing flash-based application** using modern **HTML, CSS, and JavaScript**. These experiences helped me improve user interfaces and optimize performance across browsers.

Contract Tracking — *Y! Ad systems*

Managed QA activities for a key component in **online ad systems**, specifically related to **Yahoo advertising contracts** and **guaranteed advertisements**. Gained experience in various testing techniques, including **stability**, **network latency**, **deployment**, **memory leak**, and **end-to-end integration tests**, alongside traditional functional and regression tests using **Shell/Perl scripts**. Additionally, worked on a platform for **tracking and logging ads** on Yahoo and partner sites, involving an **Apache server application**, **C/C++ Apache modules**, and utilities like **log4cpp** and **Boost** in a **Linux environment**.