

# USAMA KHALIL

Senior Software Architect | Technical Consultant | Full Stack Leader

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Pakistani Citizen | UAE Resident

Senior software architect with 11+ years building and scaling full-stack web platforms, including conversational AI, real-estate CRM, and analytics products. Lead developer on production systems integrating LLMs (OpenAI, Gemini), Twilio telephony, and real-time voice. Experienced leading cross-functional engineering teams across the MEAN/MERN stack, with delivery experience in Pakistan and the UAE.

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## TECHNICAL SKILLS

- **Languages & Frameworks:** JavaScript, TypeScript, Node.js (Express.js, Nest, Sails, Loopback), React, Next.js, Angular, PHP (Laravel, Yii2), HTML/CSS, jQuery.
  - **AI & Conversational Systems:** Conversational AI (AI Calling Agents, Chatbots), Natural Language Processing (NLP), Real-Time Voice Recognition, LLM Integration (OpenAI, Gemini), and Sentiment Analysis.
  - **Databases:** MySQL, MongoDB.
  - **Architecture & Tools:** Microservices, Scalable System Design, Cloud Infrastructure (AWS/Azure), CI/CD, DevOps, Docker, Git/GitHub, Apache, Nginx, HTTP/REST API, Socket.io.
  - **CMS & APIs:** WordPress, Drupal, Shopify, Stripe, Google API, Twilio.
  - **Methodologies:** MEAN Stack, MERN Stack, Agile/Scrum Leadership, Performance Optimization.
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## PROFESSIONAL EXPERIENCE

### SENIOR SOFTWARE ENGINEER | PEPPERSTONE | AUSTRALIA

*Apr 2024 – Present*

Developed front-end applications using React for a crypto trading platform, enhancing user experience.

Implemented secure authentication and login systems to protect user data and ensure compliance with industry standards.

Collaborated with cross-functional teams to integrate trading features and conversions, driving platform functionality.

## SENIOR SOFTWARE DEVELOPER | MODULUS | US

*Sep 2022 – Mar 2024*

Translated user requirements into system features and technical specifications for high-impact web applications.

Designed and ran integration and performance tests across multiple environments to ensure system stability.

Coordinated schedules and priorities across cross-functional teams and led triage of development and production issues.

## JAVASCRIPT FULLSTACK DEVELOPER | OPTIMAGEEKS

*Jul 2021 – Aug 2022*

Built responsive user interfaces for web and intranet applications and managed feature prioritization across the development lifecycle.

Designed database schemas and server-side APIs to integrate internal applications with third-party systems.

Delivered full-stack features across Node.js and React, applying consistent design patterns and tooling.

Built interactive media features using specialized authoring tools and browser APIs.

## SENIOR SOFTWARE ENGINEER | OPTIMAGEEKS

*Jan 2018 – Jun 2021*

Mentored junior developers through code reviews, pairing, and structured learning paths.

Led backend development for core web applications, including server provisioning and database design.

Led front-end architecture and designed user-facing interactions and flows.

Evaluated and adopted emerging frameworks and tooling to keep the team's stack current.

## SOFTWARE ENGINEER | OPTIMAGEEKS

*Jan 2015 – Dec 2017*

Designed and built REST APIs for system integration and inter-service data exchange.

Delivered responsive, cross-browser, mobile-compatible interfaces across all projects.

Partnered with designers to translate Figma/visual specs into production web features end-to-end.

Continuously evaluated emerging web technologies and programming languages to inform technical decisions.

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# KEY PROJECTS

## CALLAGENT AI

**Role/Stack:** Lead Developer (NestJS backend, React frontend, Docker)

A scalable, real-time Conversational AI platform designed for call centers, customer support, and telemarketing. This system automates outbound and inbound calls using AI agents for improved efficiency and customer satisfaction.

**Key Features:**

- **Core AI Integration:** Utilized LLMs including OpenAI, Gemini, and real-time GPT services for natural language processing (NLP) and real-time voice recognition.
- **System Architecture:** Built on NestJS (backend) and React (frontend) using Docker containers, following an MVC/modular structure.
- **Advanced Functionality:** Implemented modules for real-time call transfers based on conditions, post-call SMS/email communication, and automated information extraction (e.g., username, phone, email).
- **Booking & Integration:** Integrated with Twilio for call handling and cal.com for real-time appointment booking. Developed a Campaigns module for bulk outbound calls integrated with Google Sheets and Zoho CRM.
- **Customization:** Featured an admin panel for users to define system prompts, manage multiple knowledge bases, and configure webhooks for custom endpoint communication.

## OPTIMA CRM

**Role/Stack:** Full Stack Developer (MEAN Stack)

A comprehensive cloud-based software platform for real estate agencies designed to replace fragmented manual processes with a single, intelligent platform.

**Key Features:**

- **AI-Powered Lead Engine:** Captures inquiries from social media, websites, and portals to prevent lead leakage.
- **Performance Command Center:** Provides real-time visibility and enforces follow-up standards.
- **Centralized Management Hub:** Manages property listings and projects with automated syncing across all portals.
- **Sales Acceleration Hub:** Automates digital offers, invoicing, and commission tracking.
- **Streamlined Rental Operations:** Includes automated lease renewals, maintenance ticket tracking, and instant invoicing.
- **Business Intelligence Suite:** Offers real-time dashboards and analytics for monitoring critical KPIs.
- **Impact:** User testimonials report a 40% increase in revenue and the elimination of manual listing errors.

## MY LOBBY

### **Role/Stack: Full Stack Developer (MERN & React Native)**

A comprehensive visitor management system designed for automating facility compliance and enhancing building security, replacing traditional paper-based sign-in sheets with a streamlined digital registration process to boost office productivity.

**Key Features:** Mobile prescreening, QR code door access keys, real-time dashboard for tracking sign-in/out times and visitor details, and customizable registration workflows including modifying questionnaires and adding custom branding. Supports visitor management with or without dedicated hardware (tablets or user's mobile devices via QR code scan), AI Call Agent for natural voice interactions, hot desking apps, emergency notification systems, and automated queue management.

## LODGEINTEL

### **Role/Stack: Full Stack Developer (MERN Stack)**

Cloud-based analytics and business intelligence tools for the hotel, resort and holiday park industries, designed to optimize revenue, improve guest satisfaction, and automate workflows.

**Key Features:** JWT authentication, Socket implementations for real-time data, MongoDB aggregations, and plotting graphs/charts.

## 100BET

### **Role/Stack: Frontend Developer (Angular Material)**

Online betting site redesign based on Figma specifications.

**Key Features:** Implemented a full redesign using Angular Material, built reusable components, and integrated third-party APIs.

## DG-AGENCY

### **Role/Stack: Web Developer (Yii2, Bootstrap)**

Portfolio site for an IT and Digital agency, featuring the Perplex Effect.

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## EDUCATION

### **BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING**

Sep 2008 – Jul 2014 | University of Lahore