Maham Sultana – AI Software Engineer

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PROFESSIONAL SUMMARY

Software Engineer with 2+ years of production experience, specialising in AI agents, voice agents and RAG systems for e-commerce, legal tech and customer support. Works full stack in TypeScript and Python, from agent tool design and prompt architecture to Next.js, NestJS, PostgreSQL and Docker, in fully remote, async teams. Builds agents from first principles, including an AI coding agent written from scratch.

WORK EXPERIENCE

The Botss **Karachi, Pakistan**
Software Engineer Jan 2025 – Present

- Build and ship AI agent products for clients in e-commerce, legal tech and customer support, owning features end to end across Next.js, TypeScript, NestJS and PostgreSQL.
- Developed chatbot and RAG features with OpenAI APIs and LangChain that answer from client knowledge bases, plus voice-to-text and text-to-voice for multi-modal conversations.
- Improved frontend load performance by 30% with code-splitting, dynamic imports, memoization and optimized state management, keeping AI-heavy interfaces responsive.
- Designed and secured REST APIs with JWT, rate limiting, DTO validation and input sanitization, reducing unauthorized and invalid requests by 40%, with robust error handling for AI service calls.

Zenkoders **Karachi, Pakistan**
Software Engineer Aug 2024 – Dec 2024

- Built and maintained client-facing web applications using Next.js and React, developing a reusable component library that reduced UI development time by 25%.
- Developed RESTful APIs with Next.js and TypeORM, implementing secure CRUD operations, input validation and session management, reducing login and data errors by 30%.
- Built a real-time chat system using WebSockets, scaling to 500+ concurrent connections with sub-200 ms message latency, increasing daily active chat sessions by about 20%.

PROJECTS

Commify AI

- Architected an AI customer support platform for Shopify merchants, syncing products, variants, orders and customer data in real time across multiple storefronts.
- Built an OpenAI agent grounded in each store's data through RAG that recommends products, adds to cart and raises tickets across WhatsApp, Instagram, Facebook Messenger and a storefront widget, automating 70%+ of customer queries and reducing average response time by 25–30%.
- Built an abandoned cart recovery system via personalized WhatsApp outreach and an automated COD confirmation flow that reduced Return-to-Origin (RTO) rates from 31% to 12%, without a call-centre team.
- Integrated Stripe payments and designed JWT-secured backend APIs with human-handoff logic for real-time conversations across 4 channels, using Redis and Docker across the backend and deployment.

Arthur

- Built a multilingual (English, German, Russian) voice and chat agent on the OpenAI Agents SDK with memory and pgvector-backed knowledge retrieval, serving about 3,000 users over web chat and Twilio calls.
- Built authentication, conversation logging and an analytics dashboard to monitor agent conversations.

Accident Assist AI

- Built an AI legal-intake mobile app for US accident victims, available on the App Store and Google Play, where an OpenAI Agents SDK assistant collects case details in conversation, creates structured case files through tool calling and routes qualified leads to legal professionals.
- Built the Next.js admin panel for users, chats, tickets and leads, with live system-prompt tuning so agent behaviour can be adjusted in production.

Maham Code *Personal Project*

- Built an open-source AI coding agent from scratch in Python, modelled on Claude Code: it explores a codebase and reads and edits files through tool calling, in the terminal, a desktop app or VS Code.
- Model-agnostic by design, working with any OpenAI-compatible model, including locally hosted ones.

EDUCATION

Sir Syed University of Engineering & Technology Oct 2021 – Jul 2025
BS, Computer Science *CGPA: 3.50*

TECHNICAL SKILLS

- **AI & Agents**: OpenAI APIs, OpenAI Agents SDK, LangChain, RAG, Vector Databases, pgvector, Tool Calling, Voice Agents, Prompt Engineering
- **Languages**: TypeScript, JavaScript, Python, SQL
- **Frontend**: React, Next.js, Tailwind CSS, Shadcn UI, React Query
- **Backend**: Node.js, NestJS, Express.js, REST APIs, WebSockets, TypeORM
- **Databases**: PostgreSQL, MySQL, MongoDB, Redis, Supabase
- **Integrations**: Stripe, Twilio, Shopify API, WhatsApp, Instagram and Messenger APIs
- **Tools**: Git, GitHub, Docker, Postman, SwaggerUI, Pusher, Vercel, VS Code

VOLUNTEERING

SMEC'24 Dec 2024 – Jan 2025
Lead of Speed Debugging

- Led competitive debugging sessions, mentoring participants in identifying and resolving logical and runtime errors under strict time constraints.

HONORS & AWARDS

Award of Appreciation
Sir Syed University of Engineering & Technology

- Awarded by the Department of Computer Science & Information Technology in recognition of dedication, technical contribution and active participation.

LANGUAGES

English (professional working proficiency), Urdu (native)