Muhammad Tanveer Hamza

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Summary

AI/Software Engineer with hands-on experience across the AI application lifecycle – data annotation and preprocessing, model evaluation and adversarial testing, AI-agent integration, and production deployment. Comfortable operating under technical guidance, breaking work packages into tasks, maintaining documentation/experiment logs, and reporting development progress, seeking to contribute as Assistant Manager – AI Developer on PAF operational analytics initiatives.

Education

Air University, Islamabad 2022 – 2026
Bachelor of Science in Computer Science

Professional Experience

Zappd.ai July 2026 – Present
Full Stack QA Engineer & AI Agent Operator

- Operate and maintain Zappd's AI Agent in production, monitoring model/system behavior end-to-end and performing full-stack QA to identify, reproduce, document, and track bugs – mirroring model evaluation and validation against defined criteria.
- Maintain structured bug and QA documentation/experiment logs, and report development progress and risks to the team to keep stakeholders aligned.
- Support fellow operators by troubleshooting issues, escalating complex/unresolved problems, and streamlining day-to-day workflows to improve turnaround time.
- Automated recurring team workflows by building Slack bots for real-time error and bug reporting, reducing manual tracking overhead.

Grayhat — Playroom June 2025 – Jul 2025
Software Engineer Intern

- Contributed to AI-integrated products including Ruby (an AI Psychiatrist app) and FINORA (an AI-powered expense tracker), built with Flutter, Express, and MongoDB, integrating trained/hosted models into deliverable applications.
- Built and deployed the documentation site for joinplayroom.com using Next.js and TypeScript, enabling server-side rendering for improved SEO and faster time-to-first-byte.
- Designed UI/UX prototypes in Figma and Excalidraw before implementation, aligning with the client's brand and reducing revision cycles.

AI Astrolabe Jul 2025 – Aug 2025
AI Data Trainer & Red-Teamer — Remote (US-Based Company)

- Built and executed a data preprocessing/annotation pipeline for LLM fine-tuning: reviewed and labeled 1,025 Amazon Bedrock conversations in Urdu for grammar, semantics, and cultural appropriateness.
- Performed model evaluation and performance tuning support through adversarial red-teaming, crafting edge-case prompts to surface model weaknesses and delivering structured evaluation reports that directly informed fine-tuning decisions.
- Collaborated with cross-functional stakeholders in daily standups to align annotation/evaluation priorities, track task completion, and unblock team members.

Technical Skills

Programming & Data: Python, JavaScript/TypeScript, SQL, Pandas, NumPy
AI / ML: OpenAI API, Vercel AI SDK, LLM evaluation & red-teaming, data annotation & preprocessing pipelines, prompt engineering, REST/WebSocket integrations
Backend & Database: Node.js, Express.js, PostgreSQL, MongoDB, Prisma ORM, Supabase
Frontend: React.js, Next.js, Tailwind CSS, shadcn-ui
DevOps & Tools: Docker, GitHub, CI/CD, AWS, Vercel, Postman, Claude, Cursor

Projects

W3Uptime.org | *Next.js, Node.js, TypeScript, AWS EC2, Docker, Vercel AI SDK, TimescaleDB, Redis*

- Built a production-grade uptime monitoring platform for websites, APIs, and servers – tracking 50+ monitors with real-time latency charts, incident timelines, and Slack/email alerts delivered within seconds of downtime detection.
- Integrated a conversational AI assistant (Vercel AI SDK + OpenAI) that lets teams create monitors, query live status, and investigate incidents in plain English – reducing manual dashboard interactions for on-call engineers.
- Architected a Turborepo monorepo with a Next.js frontend and 3 Express microservices, streaming live uptime and latency data to the dashboard via Server-Sent Events backed by TimescaleDB hypertables and continuous aggregates.
- Automated the full deployment pipeline using GitHub Actions CI/CD – Docker images for all 3 services are built, versioned by commit SHA, and shipped to AWS EC2 on every push, with a container health-check gate that blocks broken releases from reaching production.

Ezkhata | *React, TypeScript, Supabase, Tailwind CSS, shadcn-ui*

- Developed a full-featured Point of Sale system with product management, a searchable checkout cart, automatic inventory deduction, and customer-linked digital receipts – designed specifically for small retail businesses.
- Built business reporting covering sales KPIs, low-stock alerts, revenue trends, top products, category breakdowns, CSV export, and downloadable PDF receipts, giving owners actionable daily insights.

MibImpex.com | *React, TypeScript, Tailwind CSS, Recharts*

- Built a fully responsive, mobile-first website using Tailwind CSS fluid grid layouts, reaching 1,500+ monthly active users since launch.
- Integrated contact form APIs with client-side and server-side validation, improving lead capture and reducing invalid submissions.

Aamstechit.com | *Next.js, TypeScript, Zod, Resend, shadcn-ui, Vercel*

- During my time at Mibimpex I worked on their Tech Companies website, choosing a sleek, minimalistic design approach for stronger creative impact.
- Built and launched a client-facing platform for a technology services company, featuring optimised landing pages and integrated contact funnels that drive inbound leads.

Certifications

AWS Cloud Practitioner (CLF-C02) AWS
Cloud computing fundamentals, AWS storage, databases, servers, and deployment processes.
Containerization & Virtualization with Docker and Kubernetes Data
Hands-on experience with Docker images, volumes, networking, Kubernetes pods, services, and CI/CD deployment strategies.
Git and GitHub Foundations GitHub
Git workflows, branching strategies, pull requests, and GitHub Actions for automated pipelines.

Awards and Achievements

- **Silver Medal in Cricket**: Represented the Computer Science department, led the team to the final, and secured a silver medal as runners-up in the competition.