

Muhammad Haseeb Hassan

Full-Stack Software Engineer | AI/NLP Specialist

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Full-stack engineer with 2+ years building production web platforms across the MERN and Next.js/FastAPI stacks, spanning secure authentication, real-time systems, and cloud-native deployment. Specialized in applying AI/NLP techniques such as RAG pipelines, semantic retrieval, and unsupervised clustering to turn unstructured data into structured product insight. Comfortable owning a system end to end, from architecture and API design to DevOps automation and delivery.

TECHNICAL SKILLS

Languages: Python, JavaScript, TypeScript, Java, C++

Frontend: Next.js, React.js, HTML5, CSS3, Tailwind CSS, Framer Motion, Three.js

Backend: FastAPI, Node.js, Express.js, REST APIs, Pydantic, SQLAlchemy, Socket.IO

Databases: PostgreSQL, MongoDB, Mongoose, Prisma ORM, SQLAlchemy, Redis, Firebase

AI / ML / NLP: RAG Pipelines, LangChain, LangGraph, FAISS, HDBSCAN, sentence-transformers, spaCy, scikit-learn

Cloud & DevOps: AWS (EC2, RDS, S3), Docker, Kubernetes, Jenkins CI/CD, Selenium, Linux

Security: JWT + OTP dual-token auth, Clerk, NextAuth, RBAC, API hardening (rate-limiting, sanitization)

PROFESSIONAL EXPERIENCE

MERN Stack Intern, DevInfantry (Lahore, Pakistan)

Jul - Aug 2026

- Built a real-time finance dashboard delivering live USD/PKR currency conversion via a third-party FX API with daily cron-based caching to cut redundant external calls.
- Implemented OTP-based two-factor authentication to secure user login and sensitive financial data views.
- Built a full e-commerce storefront with Decap CMS across multiple product categories, featuring a Three.js animated hero section and Framer Motion micro-interactions, enabling non-technical staff to manage product content without developer involvement.

PROJECTS

VentureFit: AI-Powered Startup Idea Validation Engine (FYP)

2025 - 2026

- Engineered a 9-module RAG pipeline using sentence-transformer embeddings for semantic retrieval over a 3M-record FAISS vector index, with live data ingestion from Reddit, Hacker News, and GitHub APIs.
- Built an unsupervised ML analytics engine performing HDBSCAN thematic clustering, sentiment analysis, and automated competitor gap detection via web scraping.

Multi-Tenant Agency Platform: Recruitment, Mentorship & Public Site (Client Project)

2026

- Architected a multi-tenant platform spanning admin, mentor, and intern portals, using Clerk RBAC to govern submission tracking, mentor evaluations, and grading workflows.
- Built real-time messaging between admins, mentors, and interns using Pusher, and automated transactional email workflows via Resend for notifications, offer letters, and certificates.
- Also built the company's public marketing site (homepage, services, and informational pages), plus programmatic legal contract generation via PDF-lib.

Tekron: Cloud-Native E-Commerce Platform

2025 - 2026

[Live Demo](#) | [GitHub](#)

- Built a full-stack MERN platform with JWT refresh-token rotation, bcrypt password hashing, Redis-backed caching with graceful fallback, and Socket.IO real-time notifications.
- Orchestrated containerized Kubernetes deployment on AWS EC2, configuring a HorizontalPodAutoscaler that scaled 2-5 replicas at a 50% CPU threshold with 1Gi persistent storage.
- Set up a Jenkins CI/CD pipeline with automated Selenium integration tests, resolving multi-pod container networking and port-forwarding issues.

FormCraft: No-Code Form Builder SaaS

2026

[GitHub](#)

- Developed a Typeform-style SaaS with a drag-and-drop builder supporting 12 field types, conversational form rendering, per-question analytics, and CSV export.
- Implemented full authentication (credentials + Google OAuth) with real-time autosave to prevent data loss during form editing.

ServeFlow: Full-Stack Service Marketplace

2026

[Live Demo](#) | [GitHub](#)

- Engineered a full-stack service marketplace with customer, provider, and admin workspaces.
- Built an Express API with MongoDB persistence, Redis health checks, and a seeded memory fallback.
- Implemented real-time messaging using Socket.IO and cloud upload storage for profile images.

EDUCATION

BS Computer Science, COMSATS University Islamabad

2023 - 2027

LICENSES & CERTIFICATIONS

Full-Stack Web Development with React and MongoDB: Udemy, Feb 2025

Claude Code in Action: Anthropic, Mar 2026

Kaggle Titanic (ML): 0.79186 accuracy, Top 6% of global leaderboard