Muhammad Hamza Hassaan

Full Stack Developer with AI/ML Experience

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Summary

4x Mentor in int'l Hackathons, guiding **200+** global participants contributed to their projects leveraging LLMs, geolocation intelligence, and ethical AI solutions.
Delivered **10+ projects** & have proven experience in delivering production-ready solutions using diverse stacks to real clients.
Strong foundation in **MERN Stack development & Ai/ML**, delivering real time business growth results.
Actively contributing back into community by Mentoring more than **500 students** in Data Structures & Algorithms (DSA), Python, and AI fundamentals.

Education

BS Computer Science (Hons) — CGPA: 3.17/4.0 *Sept, 2022 — June, 2026*
University of Agriculture, Faisalabad, Pakistan

FYP: *Mid Season Wheat Yield Estimate Through Remote Sensing Using Regression and Regularization Techniques.* **Live Link**
Technologies: *React.js, FastAPI, Earth Engine, QGIS, (Research Based) ElasticNET and Lasso & Ridge Regularization Models*
Results: *at 50% of wheat growth (prob. in mid February), using elasticNet, we get 86% accurate yield estimation*

Technical Skills

Languages: Python, JavaScript
Backend: Node.js, Express.js, FastAPI, Firebase
Databases: MongoDB, MySQL, MS SQL Server
Frontend: Streamlit, React.js, Next.js, Redux, Tailwind, Material UI,
Ai/ML: TensorFlow, Keras, Scikit-learn, Open CV
Tools: Docker, AWS, Postman, Google Earth Engine, QGIS

Professional Work

1. The Build Bazar | *Full Stack Developer* | *MERN/Next.Js Web App* | *Dec 2024 - May 2025* **Link**

- Production-grade, scalable stack: Built on **Next.js 16** (App Router) with server-side API routes, **MongoDB** via Mongoose, **JWT/bcrypt**-secured auth, **Cloudinary** for media, **Redux** Toolkit for state management, and PDF generation (**jsPDF**) for invoices. The inclusion of a sitemap, admin seeding scripts, role-based access control, and **push notifications** shows this platform designed for scale.
- Build Bazaar consolidates a fragmented industry including buyers, sellers, contractors, and service providers into a single full-stack platform. This app has **role-specific dashboards**, a real-time **bidding system**, **invoice generation**, **integrated chat**, **Google Maps-powered** location services, and a **blog/content layer**, all under one roof, replacing what would otherwise require 4–5 separate tools.

2. Hydro Heaven | *Front End Developer* | *React.Js Frontend* | *Jul 2024 - Sept 2024* **Link**

- Built and deployed a production React.js SPA with **component-based architecture**, React Router, **Framer Motion** animations, asynchronization, **Cloudinary** media integration, and CI/CD via **Vercel**.
- Built dynamic contact and feedback forms, increasing user-submitted inquiries by 35% replacing the google forms.

3. Hire On | *Full Stack Developer* | *MERN/Next.js Web App* | *Oct 2024 - July 2025* **Link**

- built across three layers: A **public website** in Next.js 13 (App Router), an **admin panel** in Next.js (Tailwind + Ant Design + MUI + React Query), and a **Node.js/Express REST API** backed by MongoDB/Mongoose.
- It covers user roles: **jobseeker, recruiter, admin** with JWT auth, OTP verification via email **Nodemailer** and **SMS Fast2SMS**, real-time notifications via **Socket.IO**, file uploads with Multer, OCR-based identity card extraction using **Tesseract.js**, and push notifications via **Firebase Admin SDK**.
- It demonstrates solid architectural separation MVC pattern, role-based access control, multi-model data layer

Selected Projects

1. Profetcher
This is a chrome extension developed **(but not published yet)** to help students get information about their favorite professors with whom they want to do research in Ph.D.

2. Recognition of facial expression Link
Developed a deep learning model to detect 7 emotions in real time using CNN. Trained and tested on FER2013 dataset.
Model size is **85.8M params** with performance visualization using **Matplotlib** and **Seaborn**.

3. Intelligent Women Security Github Link
Built a crime-aware route optimization tool using **Groq Gemma2-9B-IT** LLM and OpenRouteService API, providing real-time safe navigation and emergency simulation.

4. AI Multi-Disease Detection Demo Link
Developed a healthcare prediction system that integrates the GROQ (LLaMA) API with pre-trained ML models, supporting the diagnosis of multiple conditions through a Streamlit interface.

5. Skin Cancer Detection Link
Built an image classification system using **Huggingface** and **Transfer Learning (MobileNetV2)** to detect types of skin lesions with high confidence scores and real-time prediction on user-uploaded images.

Notable Academic and Extracurricular Achievements

LeadWithAiAgents Hackathon Mentor
2x PEC Gen Ai Hackathons Mentor
Code Fusion Hackathon Mentor
11th Place – Advent of Code 2024
Solved 140+ DSA Problems (LeetCode/Platforms)
CS50x Puzzle Day 2025 & 2026 (9/9 Puzzles Solved)
Solved 2/5 Problems in Meta Hacker Cup 2024
MIT Information Tournament 2025 (108th / 533 Globally)
Calico Coding Competition – UC Berkeley 2024
top 8% with 92.2 Percentile - NSCT by Govt. of Pakistan 2026