

Muhammad Hammad Irfan

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ABOUT

Full-stack developer with strong backend focus and hands-on experience integrating LLMs, building workflow automations, AI agents, and orchestrating multi-system solutions. Skilled at developing productiongrade applications using Node.js, Next.js, Python, Supabase, and AI tooling. Enjoy solving real-world problems by combining CRMs, databases, APIs, and AI models into reliable systems.

EDUCATION

National University of Sciences & Technology (NUST) Bachelor of Science in Computer Science (SEECs)	Islamabad, Pakistan Sep 2023 – Present
Aspire College Faisalabad Intermediate (Pre-Engineering) Grade: 87.5%	Faisalabad, Pakistan Sep 2021 – June 2023

EXPERIENCE

AI & Software Developer (Industry Project) <i>KidneyCare Clinical Assistant</i>	SEECs, NUST June 2025 – Present
<ul style="list-style-type: none">Built a clinical decision support system incorporating rule-based AI logic for nephrologists.Designed workflows handling unreliable inputs, missing labs, and safety-critical medical logic.Architected structured output flows for real physicians to review recommendations.Led MVP delivery for domain experts and medical faculty.	
LLM & Agentic Automation Development <i>Core Research & Implementation</i>	Independent Work & Research Jan 2025 – Present
<ul style="list-style-type: none">Implemented agentic workflows with function calling, retrieval, embeddings, and tool execution.Built pipelines involving reasoning → tool invocation → DB write-back → scheduling.Integrated Supabase (Postgres + PGVector) for hybrid structured + vector storage.Designed multi-system automations bridging APIs, CRMs, LLMs, and data layers.	
Web Developer Intern <i>Frontend and Backend Fundamentals</i>	AskUsSolution (Remote) July 2024 – Aug 2024
<ul style="list-style-type: none">Collaborated with the team on small-scale projects and improved understanding of React, Node.js, and Git-based workflows.Gained hands-on experience with REST APIs, UI development, and deployment basics.	

PROJECTS

EduSync – A Role-Based University Automation Platform

- Built workflows for scheduling, onboarding, invoicing, and attendance automation.
- Designed RBAC structure using Next.js, Supabase, and Prisma ORM.

MI Printer Automation Tool

- Developed automated pipeline for parsing, preprocessing, and formatting prints for MI devices.
- Designed UI + backend coordination for predictable batching and device interactions.

LingoMate – An AI-Powered Web Application

- AI conversational app for improving English fluency in real-time.
- Built with React.js, integrates speech-to-text, text-to-speech, and GPT-based responses.

SKILLS

Core Stack: Node.js, Python, Next.js, React, Express

AI / Automation: LLM Function Calling, Embeddings, Vector DBs (PGVector), LangChain, LlamaIndex, n8n, Workflow Automation, AI-Agents, Prompt Engineering

Databases: PostgreSQL, MySQL, Supabase, MongoDB, Redis

Cloud / Tools: Git, GitHub, Vercel, Firebase, Prisma ORM, Webhooks, REST APIs, Docker & AWS (Basic)

Concepts: OOP, Data Structures, API Design, System Architecture, Workflow Automation

Soft Skills: System Thinking, Architecture Design, Data Flow Modeling, Reliable AI Pipelines, Problem Solving, Clean Code