

HASSAM ALI

Software Engineer — Full-Stack & Data

Lahore, Pakistan · hassamali898@gmail.com · +92 335 4561742
hassamali.dev · linkedin.com/in/hassamalip898 · github.com/hassamali898

SUMMARY

Software engineer with four years of professional experience spanning large-scale data engineering and end-to-end product development. Currently a Data Engineer at Arbisoft, where the pipelines I build and maintain process over 100 TB of data daily. Independently ship complete products across web, mobile and desktop — most recently Veyra, a macOS AI assistant running local speech-to-text, on-device retrieval and provider-agnostic inference. Comfortable owning a system from the ingestion layer through to the interface.

PROFESSIONAL EXPERIENCE

Arbisoft — Data Engineer

Lahore, Pakistan | 2022 – Present

- Increased the throughput and efficiency of data pipelines processing **over 100 TB of data daily**, supporting the organisation's core data platform.
- Developed, deployed and maintained a production estate of **8,000+ scrapers** built with Scrapy, Selenium and BeautifulSoup, extracting structured data from dynamic web sources at scale.
- Designed and established best practices for continuous process automation across data ingestion and pipeline workflows, reducing manual intervention in recurring extraction jobs.
- Partnered with stakeholders across departments to scope, build and deploy new initiatives within the data platform, translating business requirements into pipeline architecture.
- Mentored **4+ engineers** and led technical decisions on pipeline design and extraction strategy.
- Prepared and presented analyses and reports to stakeholders including executive leadership, turning raw pipeline output into decision-ready insight.

Arbisoft — Full-Stack Engineering Intern

Lahore, Pakistan | 2022

- Built **Sequels**, a React application consuming the TMDb API to organise and present movie and TV data, managed end-to-end through GitHub and Kanban (sequels.vercel.app).
- Delivered a **Staff Scheduling** application in Django, learning the framework from scratch and shipping a working system within the internship.

Freelance — Full-Stack Developer

Remote | 2020 – 2022

- Delivered responsive web and cross-platform mobile applications end to end for international clients, from requirements through deployment.
- Architected backends on an MVC structure to keep systems legible and reduce the cost of defect fixes, building interfaces across both functional and class-based component models.

Sun Marketing — Graphic & Web Designer

US, Remote | 2020

- Designed restaurant menus, flyers and their accompanying websites in HTML5, CSS and Bootstrap, working directly with US-based clients on their branding across print and web.

Coca-Cola İçecek — Graphic Design Intern

Lahore, Pakistan | 2019

- Designed brochures, social posts and event collateral deployed internationally for Cyber Edition 3.0, and produced promotional video content in Adobe After Effects.

TECHNICAL SKILLS

Languages: Python, TypeScript, JavaScript, Dart, C#, C/C++, SQL

Data Engineering: Scrapy, Selenium, BeautifulSoup, ETL pipelines, data ingestion, pipeline automation, reporting and analysis

Backend: Django, Node.js, Express.js, REST APIs, WebSockets

Frontend: React, Next.js (App Router), Redux, Tailwind CSS, Bootstrap, Framer Motion

Mobile & Desktop: Flutter, React Native, Electron, Flame, push notifications

AI Engineering: Local LLMs, retrieval-augmented generation, vector search (LanceDB), embeddings, Model Context Protocol (MCP), agentic protocols (A2A, ACP)

Databases: PostgreSQL, MySQL, MongoDB, Firebase / Firestore

Tools & Practices: Git, GitHub Actions, Jira, Trello, Agile/Scrum, Kanban, TDD, BDD, DDD, code review

Design: Figma, Adobe XD, UX research, wireframing, prototyping, accessibility (WCAG)

PROJECTS

Veyra — AI Assistant for Live Meetings

Electron · TypeScript · React · Local LLMs · RAG · LanceDB — veyra-assist.vercel.app

- Built a macOS desktop assistant that listens to a live meeting, classifies whether a spoken turn warrants a response, and streams an answer on screen during the conversation.
- Architected the system local-first: audio capture, two-pass speech-to-text, turn classification, embeddings and retrieval all execute on-device; only answer generation reaches an external provider.
- Achieved **18 ms p95 retrieval** (measured) from an on-device vector database, keeping context lookup inside a two-second end-to-end design budget.
- Implemented a provider-agnostic inference layer supporting OpenAI, OpenRouter and Gemini presets plus any OpenAI-compatible endpoint (Ollama, LM Studio, vLLM) — adding a provider requires configuration, not code.
- Secured API key custody structurally: keys reside in the macOS Keychain and no IPC channel in the application is capable of returning one.

Attendify — Automated Attendance & Alerts Ecosystem

React 19 · React Native · Firebase · Chrome Extension MV3 — attendify-school.vercel.app

- Engineered a multi-platform system — a React Native app for teachers, React 19 admin and teacher dashboards, and a custom Chrome extension — now in daily use across **two schools and one academy**.
- Eliminated messaging API costs by automating WhatsApp Web through a Manifest V3 extension to dispatch daily absence alerts to parents.
- Built a stateful background queue on `chrome.storage.local`, allowing message dispatch to resume cleanly after tab reloads, crashes and network timeouts.
- Integrated Recharts analytics and SheetJS Excel exports for administrative reporting.

Sun Marketing — Food Delivery Platform

React · Next.js · Node.js · MongoDB · React Native · Stripe · WebSockets

- Built a four-part platform for US restaurant operations: customer storefront, owner mobile app, admin panel, and the API serving all three.
- Implemented dynamic per-restaurant routing so a single deployment serves an entire roster of independently branded restaurants.
- Delivered real-time order flow over WebSockets, and integrated Stripe payments, Google Maps delivery routing and full authentication with email verification.

EDUCATION

Bachelor of Science in Computer Science

University of Central Punjab, Lahore | Graduated 2022

CERTIFICATIONS

- [AI Agents with Model Context Protocol](#) — Vanderbilt University (Coursera)
- [Agentic AI Protocols \(MCP, A2A, ACP\)](#) — Coursera
- [Foundations of User Experience \(UX\) Design](#) — Google (Coursera)
- [Start the UX Design Process: Empathize, Define, and Ideate](#) — Google (Coursera)
- [Build Wireframes and Low-Fidelity Prototypes](#) — Google (Coursera)
- Professional UI/UX Design — Google (Coursera)
- Agile Software Development — LinkedIn Learning