

ZAIN MAHMOOD

Software Developer | Computer Science Student

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SUMMARY

Software developer and Computer Science student who builds and releases complete desktop, web and Android applications in Python, TypeScript, Rust and Dart, including automated tests, CI security scans and cross-platform installers.

PROJECTS

GrabLine | Python, PySide6, SQLite, yt-dlp, libtorrent Active, v1.31.0

- Built a segmented download engine where finished connections take over the slowest remaining range; progress is checkpointed to SQLite, so downloads resume after a crash or power loss.
- Connected the browser extension through Native Messaging instead of a localhost port; the Firefox extension is signed and listed on AMO.
- Release pipeline ships six installers per version for Windows, macOS and Linux with SHA-256 checksums.

Envryn | Rust, Tauri, React, TypeScript Beta, v0.1.9

- Local-first secrets vault for Windows and Android; the Rust core enforces all vault policy behind typed Tauri IPC, with TypeScript bindings generated from the Rust types.
- Implemented XChaCha20-Poly1305 encryption, Argon2id key derivation and device sync over mutually authenticated TLS with no server in between.
- CI runs unit, integration and fuzz tests with CodeQL, Semgrep and cargo-audit; releases include an SBOM.

NameVetta | Next.js, React, TypeScript, Supabase, Zod, Playwright Live

- Name research web app that checks 50+ sources (37 TLDs over RDAP, package registries, app stores, company registers) and reports evidence instead of a guessed "available".
- Kept unverified results out of the score across Zod schemas, Postgres CHECK constraints, scoring and UI; a 116-case quality benchmark gates CI.

Rescripto | Flutter, Dart, Kotlin, C++, llama.cpp, whisper.cpp Active, v1.3.0

- Android app that rewrites text and transcribes speech on the device; wrote the llama.cpp Flutter plugin in Kotlin and C++ over JNI, shipping four CPU builds in one APK.
- Routes optional cloud providers through a single network guard with a kill switch; a git tag builds and publishes a signed APK and AAB.

Other projects: MediaListory (Node.js, Express, PostgreSQL, OAuth), VTcade (Node.js, Supabase), EldenLore RAG (Python, ChromaDB), Trovelo (React Native), Pong (Godot), Grinfinity (C#), Frost Breaker and Flappy Bird (C++).

EXPERIENCE

Freelance Designer | Fiverr, Remote 2021 - Present

- Delivered branding, pixel art and social media assets for international clients, owning each project from requirements through revisions to final delivery.
- Earned a 4.8 rating across 222 client reviews by communicating clearly, scoping work accurately and meeting agreed deadlines.

TECHNICAL SKILLS

Languages	Python, TypeScript, JavaScript, Rust, Dart, SQL, C++
Frameworks	React, Next.js, Node.js, Express, Tauri, Flutter, PySide6
Databases	PostgreSQL, Supabase, SQLite
Tools	Git, GitHub Actions, Playwright, Vitest, Semgrep, CodeQL, Vercel

EDUCATION

Bachelor of Science in Computer Science | The University of Faisalabad 2023 - Present

Coursework: Data Structures and Algorithms, Object-Oriented Programming, Advanced Databases, Web Technologies