Ali Shahzad

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Education

University of Waterloo 2026 – 2031
Bachelor of Applied Science in Computer Engineering *Waterloo, ON*

- Prior: IB Diploma | **SAT 1600/1600** | **100% Merit Scholarship**

Experience

Beem Solutions May 2025 – August 2025
Software Engineering Intern (Forward-Deployed Engineering) *Python, SQL, AWS*

- Adapted a B2B AI voice-agent platform to each client's workflow by building Python integrations with their databases, CRM systems, and scheduling tools.
- Worked directly with client engineers and stakeholders to review existing codebases, gather requirements, and plan integrations.
- Merged email, phone, and social media interactions into unified customer profiles for the voice agents.

Punjab IT Board (PITB) June 2024 – August 2024
Mobile Development Intern *React Native, Laravel*

- **Halved app startup time** by moving blocking initialization work to asynchronous operations.
- Built and documented React Native screens with designers, integrating them with APIs, databases, and server-side components.
- Wrote Laravel MVC backend code for apps handling national ID (CNIC) data; senior review approved it with no security issues or bugs found.

Projects

Fraise – Browser Workspace for Training & Testing Language Models *Python, FastAPI, JavaScript, SSE*

- Built a web app for launching training runs, comparing checkpoints, and trying models through autocomplete that streams suggestions as you type, with accept/discard and cancel.
- Added validated forms, live loss charts and logs, and a graceful stop that saves a resumable checkpoint.
- Maintained a **127-test suite** (zero skips) covering exact checkpoint replay, compiled-model correctness, and evaluation behaviour.

Shale – Local-First Personal Knowledge Base *TypeScript, React, Bun, SQLite*

- Built a knowledge app that captures notes, email, and browsing into searchable local storage, with a React interface and a plug-in system for new data sources.
- Wrote a Chrome extension with an **offline outbox** in IndexedDB and retries with backoff, so captured data survives network loss and browser restarts.
- Made AI-agent edits safe: permission-scoped views, transactional writes, idempotency keys, a dry-run preview, and an audit log.

Deal or No Deal – Tested Simulation & Analysis CLI *Rust, Python, GitHub Actions*

- Found, documented, and fixed three bugs in the original simulator; added **8 Rust and 26 Python tests**, linting, an end-to-end demo, and Windows checks to CI.
- Packaged an installable Python CLI for reproducible runs, plots, and model verification.

Technical Skills

Languages: TypeScript, JavaScript, Python, SQL, Rust
Applications: React, React Native, Laravel, FastAPI, Bun, SQLite, APIs, AWS, IndexedDB, Chrome extensions
Quality & Tools: Git, GitHub Actions, pytest, Cargo, regression testing, CI, debugging and root-cause analysis