Hamza Zeeshan

Software Engineering Student — FAST-NUCES, Karachi
Karachi, Pakistan | (+92) 335 2410795 | hamza.zeeshan7163@gmail.com | LinkedIn | GitHub

Education

FAST-NUCES Aug 2024 – Present
Bachelor of Software Engineering — CGPA: 3.5 *Karachi, Pakistan*

Adamjee Govt. Science College Aug 2022 – Jul 2024
Computer Science (A+) *Karachi, Pakistan*

Experience

A. F. Ferguson & Co. (PwC Pakistan) Summer 2026
Technical Consultation and Risk Assurance Intern *Karachi, Pakistan (On-site)*

- Evaluated IT infrastructure, security controls, and change management frameworks for blue-chip clients including National Refinery, Lucky Cement, and Thal Limited.
- Tested IT General Controls (ITGCs) aligned with ISO 31000, covering access rights, revocation, and change management across database and infrastructure environments.
- Conducted on-site system walkthroughs and interviewed IT administrators, including a 4-week on-site placement at Thal Limited's headquarters.
- Led a CIO-level risk-escalation meeting to communicate a technical exception and recommend remediation steps.

Projects

Shadi Seat Maxxing — Wedding Seating Planner
React, TypeScript, Django, OR-Tools CP-SAT, React-Konva Live Demo | Source

- Built a full-stack wedding seating planner that models guest placement as a Constraint Satisfaction Problem, solved by Google OR-Tools CP-SAT behind a Django REST Framework API, seating every guest while respecting spatial, cultural and accessibility rules.
- Developed an interactive hall designer in React, TypeScript and React-Konva (Zustand state, Zod validation) with 10 venue presets, tables, sofas, stages and entrances, plus an 11-attribute guest roster with CSV/JSON import.
- Implemented a tiered rule-relaxation engine (households, gender zones, must-together/apart, elder sofas) using penalty-weighted soft constraints and an audit log, achieving 100% placement even in over-constrained layouts; 200 guests solved to optimality in about 340 ms.

Receiptify — AI-Powered Receipt Management App
React Native, Expo, TypeScript, Node.js, Express.js, PostgreSQL, Gemini API Live App | Source

- Built a cross-platform mobile app that uses the Gemini API to automatically extract transaction details, sender/receiver info, and timestamps from a photographed receipt, removing the need to manually log payments.
- Designed a Node.js/Express backend with a PostgreSQL database to centralize receipt records for individuals and business owners tracking dozens to hundreds of payments.
- Added one-tap export/sharing of receipt data in PDF, CSV, and Excel formats; shipped as a downloadable Android APK.
- Built end-to-end in collaboration with a partner, covering mobile UI, REST API, and OCR/AI integration.

InstaInsights — Instagram Chat Analyzer
React.js, TypeScript, Vite, Recharts, Tailwind CSS Live App | Source

- Built a fully browser-based, zero-backend Instagram chat analytics app; all processing runs locally on-device for complete privacy.
- Streams and decompresses multi-inbox ZIP exports (fflate) without loading the full archive into memory, supporting large export files.
- Delivers message analytics, emoji/word frequency, yearly activity heatmaps, response-time stats, and full-text regex search.
- Built in collaboration with a partner; engineered the complete parser, analytics engine, state management, and multi-file merge system.

Word2Vec Visualizer
Python, NumPy, scikit-learn, React, TypeScript Live App | Source

- Implemented Word2Vec (Skip-Gram with Negative Sampling) from scratch in Python/NumPy, including manual backpropagation and gradient descent, with no deep learning framework.
- Built the full training pipeline: tokenization, vocabulary construction, negative sampling, and mini-batch gradient updates.
- Developed an interactive React/TypeScript visualization of t-SNE-reduced word embeddings with nearest-neighbor search.

Alamgir Welfare Trust — Donation & Campaign Management System
React.js, TypeScript, Node.js, MySQL Live App | Source

- Redesigned and replaced the organization's outdated website with a full-stack web application, built in collaboration with a partner as a community service initiative.
- Tracks donors, donation records, active campaigns, and auction events in real time on a React/TypeScript frontend backed by a Node.js and MySQL API.

Achievements

Dean's List — Fall 2024 (awarded to students with SGPA above 3.5). [View Post]

Dean's List — Fall 2025. [View Post]

Secured 10th place overall (out of the full 2025 batch) in the ACM Coders Cup 2025 competitive programming competition. [View Post]