Shaheer Abbasi

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Education

University of Houston – Bachelor of Science in Computer Science, **4.0 GPA** **Expected May 2027**

Skills

Languages: JavaScript, Java, Python, C++, TypeScript, HTML, CSS, SQL
Technologies: React, Next.js, Flask, Tailwind CSS, Supabase, PyQt5, SQLite, Git, Node.js

Experience

Software Engineering Intern, Opportunity Knocks – Remote, USA **Aug 2025 – Present**

- Improved mobile responsiveness through redesigning React components with TypeScript and Tailwind CSS, reducing bounce rate on small screens by ~15%
- Processed 300+ user document uploads by implementing a full-stack file upload system with Supabase Storage
- Built an end-to-end video meeting system with invitation workflow, calendar scheduling, and in-chat coordination using the 100ms SDK for secure WebRTC
- Reduced manual customer support time by ~5 hours weekly by building an automated email processing system with Google Apps Script and Gmail API, handling 20+ daily inquiries
- Delivered features through Agile development with sprint planning, code reviews, and continuous integration

Undergraduate Research Assistant, Sen Laboratory – Houston, TX **Sept 2025 – Present**

- Increased research accessibility for a 5+ member lab by developing a Python desktop application, translating command-line processes (BLASTP) into an interactive GUI for protein sequence visualization and alignment
- Reduced data processing time by 90% (10x performance gain) for complex protein clustering algorithms by implementing a GPU-accelerated processing pipeline
- Accelerated repeat BLASTP searches by nearly 50%, saving 30+ seconds per query, by integrating local NCBI protein database support, enabling offline analysis without API rate limits
- Eliminated UI freezing during lengthy queries by implementing background processing with real-time updates

Computer Science and Mathematics Tutor, Varsity Tutors – Remote, USA **Sept 2024 – July 2025**

- Conducted 250+ hours of tutoring for 20+ high school students, improving exam scores by an average of 20%

Projects

VelvetCode: Real-time Collaborative Code Editor – Next.js, TypeScript, Tailwind CSS, Socket.IO, Redis

- Delivered a real-time, multi-user collaborative coding experience supporting 10+ concurrent users, by developing an AI-powered code editor (at CodeRED Astra Hackathon) with sub-100ms synchronization latency
- Increased developer productivity through integrating Gemini AI for on-demand code analysis, refactoring, and testing
- Achieved sub-2-second in-browser code execution across 19+ programming languages by integrating Piston API
- Improved real-time server responsiveness through Redis caching for document, chat, and room state management

QuizifAI: AI-Powered Learning Platform – Flask, Python, Alpine.js, JavaScript, Bootstrap CSS, jQuery, SQLite

- Reduced student study time by building an AI-powered quiz creator that automatically generates practice quizzes from study materials, leveraging OCR and Gemini for smart question generation
- Stored and retrieved 100+ quizzes by designing a normalized SQLite database schema with foreign key relationships
- Secured user data with an authentication system featuring password encryption and role-based access control

Streetball Showdown: Turn-Based Basketball RPG – C++

- Designed a tournament progression system with randomized 20-turn basketball matches, character leveling with XP, and special abilities unique to 3 player classes
- Implemented an object-oriented architecture with inheritance for player archetypes to minimize code duplication
- Built a file serialization system for saving and loading player data with proper data type handling