

MUHAMMAD ABUBAKAR SIDDIQUE

Computer Science Student | AI & Software Engineering Enthusiast | Full-Stack Developer

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ACADEMIC PROFILE

Computer Science student and AI-focused full-stack developer seeking a research-oriented fellowship opportunity at GIKI. Strong interest in artificial intelligence, AI agents, RAG systems, cloud-native development, automation, and civic-tech software. Built 5+ practical web applications using Python, JavaScript, React, FastAPI, and Supabase; also active in hackathons, competitive programming, Harvard CS50x Puzzle Day, and open-source learning.

EDUCATION

Bachelor of Computer Science | Virtual University of Pakistan

Pakistan | Aug 2024 - Sep 2028 (Expected)

- Focus areas: full-stack development, artificial intelligence, software engineering, algorithms, databases, DevOps, and cloud-native development.

Associate Degree / Program Track - Cloud Native & Generative AI | PIAIC

Pakistan | Jul 2024 - Dec 2025

- Coursework and training in generative AI, cloud-native systems, DevOps, containerization, and scalable application development.

High School Diploma | Government Graduate College 4 Chak

Pakistan | Graduated Jan 2024

RESEARCH INTERESTS

Artificial Intelligence | AI Agents | Generative AI | Retrieval-Augmented Generation (RAG) | LangChain | Quantum Computing Fundamentals | Full-Stack Systems | Civic-Tech Automation | Cloud-Native Software | Developer Tools

ACADEMIC ACHIEVEMENTS & CERTIFICATIONS

- Harvard CS50x Puzzle Day 2026 - solved all puzzles successfully (10/10) and received recognition/certificate for global problem-solving participation.
- CALICO Spring Remix '26 - participated solo under the name 'Flaco' and completed all contest questions; strengthened logical thinking, speed, accuracy, and consistency under time pressure.
- BlueQubit x Yale Peaked Hackathon 2026 - participated in a one-day quantum hackathon; worked with qubits, quantum gates, circuit optimization, and error-mitigation concepts; posted a score of 210 and rank 73 on the scoreboard.
- Prime Minister's Youth Laptop Scheme 2025 - awarded a laptop on merit through Virtual University of Pakistan.
- Generative AI and Prompt Engineering - Aptech Learning Pakistan, in collaboration with Pak Angels, Aspire Pakistan, and iCodeGuru; completed online course/certification, Mar 2025.
- Cisco Network Technician Career Path - completed certification, Feb 2026; Credential ID: a9056d22-e5c9-4639-92b2-7b0ab8263f34.
- Stanford Code in Place Section Leader application - completed application tasks including teaching demo and problem-solving components.

HACKATHONS & COMPETITIONS

- Participated in hackathon programs/events associated with MIT, UCLA, and UC Berkeley, developing practical exposure to fast prototyping, teamwork, research-driven ideation, and presentation of technical solutions.
- BlueQubit x Yale Peaked Hackathon 2026 - gained hands-on exposure to quantum circuits, qubit behavior, gate-level reasoning, and optimization-oriented problem solving.
- Harvard CS50x Puzzle Day 2026 - completed 10/10 puzzles, demonstrating persistence, pattern recognition, mathematical reasoning, and collaborative problem-solving ability.
- CALICO Spring Remix '26 - completed all problems/questions in a competitive programming environment.

EXPERIENCE

Developer | Local Government Projects / Local Freelance

Chishtian, Pakistan | Jan 2024 - Present

- Engineered automation tools and real-time dashboards using React, FastAPI, Python, and Supabase, reducing manual reporting work and streamlining operational workflows.
- Architected and delivered POS systems, Housing Society Management Systems, Supply Chain Management Systems, and public-service dashboards serving 50+ daily active users.
- Migrated legacy workflows to modern Python/Supabase stacks, improving maintainability, reliability, and deployment speed.
- Integrated OpenAI API into report generation and data-processing workflows to reduce repetitive manual work.
- Managed end-to-end delivery: requirements gathering, architecture, development, testing, deployment, documentation, and user feedback.

SELECTED PROJECTS & RESEARCH-ORIENTED WORK

Colony Management System (CMS) | Full-Stack SaaS Project

- Built a colony and housing-society management platform for installment tracking, financial records, real-time analytics, mobile/desktop access, and offline operation with synchronization.
- Designed for transparency, secure record management, scalable administration, and reduced manual paperwork for housing societies.

MW Supply Platform | Bottled-Water Operations System

- Developed a management platform for bottled-water plants, covering daily deliveries, customer records, bottle tracking, billing, payment monitoring, and dashboard-based decision making.

LangChain & RAG Workflow Experiments | AI Engineering / Open Source Learning

- Worked on chain orchestration concepts including runnable sequences, conditional logic, parallel execution, and structured output parsing for efficient document-processing and RAG workflows.
- Explored OpenAI Agent SDK and n8n automation to connect AI agents with workflow automation and Web API interactions.

Next.js To-Do Application | Frontend / Full-Stack Practice

- Created a responsive To-Do app with Next.js App Router and Tailwind CSS; features include adding tasks, deleting tasks, marking completion, and localStorage persistence.
- Planned extensions include Firebase/Clerk authentication, Supabase backend integration, due dates, and status-based filtering.

TECHNICAL SKILLS

Languages	Python, JavaScript (ES6+), C, C++, Dart
Frontend	React, Next.js, HTML5, CSS3, Tailwind CSS, Streamlit
Backend	FastAPI, Flask, REST APIs, Supabase, Node.js basics
AI / ML / Automation	OpenAI API, ChatGPT, GenAI apps, LangChain, RAG, AI agents, n8n workflows
Databases	PostgreSQL, Supabase, SQLite
DevOps & Tools	Linux, Docker, Git/GitHub, CI/CD basics, shell scripting
Cloud / Platforms	Vercel, Supabase, AWS basics, GCP basics, Jupyter Notebooks

LEADERSHIP, SERVICE & PUBLIC PROOF

- Maintains a public technical portfolio at abees.me and GitHub with practical projects, posts, repositories, and deployment history.
- Portfolio/GitHub activity includes 125+ repositories, 400+ contributions, and 300+ deployments across AI, backend, dashboards, and utility applications.
- Shares technical progress publicly through LinkedIn posts on CS50x Puzzle Day, competitive programming, AI/ML, LangChain, full-stack projects, and software engineering learning.
- Interested in mentoring peers, community problem solving, and using software to improve local governance, education, and operational systems.

LANGUAGES

English - Fluent | Urdu - Native