

Ahmed Baig

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TECHNICAL SKILLS

Languages: C/C++, Java, Python, JavaScript, TypeScript, GO, HTML/CSS

Databases: MySQL, PostgreSQL, MongoDB

Technologies: Node.js, NestJS, React.js, Express.js, Web3.js, Flask, AWS, Twilio, Docker, Jenkins, Github Actions

EDUCATION

National University of Computer and Emerging Sciences <i>Bachelor of Science in Computer Science</i>	Islamabad, Pakistan 2020 – 2024
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EXPERIENCE

Backend Specialist <i>BaKhabar Kissan (BKK)</i>	June 2025 – Present <i>Islamabad, Pakistan</i>
<ul style="list-style-type: none">Designing and implementing end-to-end database and system flow architectures, laying the foundation for scalable and maintainable applications.Developing robust, high-performance backend systems and APIs using Node.js, NestJS and Python to drive core business functionalities.Engineering and maintaining complex ETL pipelines, ensuring reliable and efficient data extraction, transformation, and loading across multiple systems.Architecting and implementing system-level performance enhancements by analyzing and reducing time/space complexity, designing parallel execution workflows, and making systems dynamically scalable.Leading deep-dive optimizations of database performance, specializing in advanced SQL and PostGIS spatial query tuning (Materialized Views, spatial indexing, complex Joins).Proactively identifying, diagnosing, and resolving complex data and system-level bottlenecks (API, database, ETL) to ensure high throughput and low latency under significant load.Driving ecosystem-wide performance optimization across 9 projects, enhancing both backend services (Node.js/NestJS/Python) and database efficiency to ensure holistic system scalability.Spearheading the complete, end-to-end backend architecture and development for 5 key projects.Leading the entire frontend development lifecycle for 3 critical portals using React, from initial design through to deployment and integration.	
Full Stack Engineer <i>QLU.ai</i>	Aug 2024 – May 2025 <i>Islamabad, Pakistan</i>
<ul style="list-style-type: none">Developed and enhanced production-level features using NestJS, React, React Query, Postgres, and Twilio, ensuring scalable and efficient web applications.Designed and implemented communication systems, including incoming/outgoing calls and messaging, by integrating Twilio's API for seamless user interactions.Optimized API performance and data processing, enabling efficient handling of 80,000+ data items in a single API call through algorithmic improvements and database optimizations.Built and expanded core functionalities such as anonymous contact handling, contact notes, and real-time messaging, significantly improving user experience and workflow efficiency.Developed a real-time chat application using WebSockets and the PERN stack, ensuring low-latency communication and robust performance.Resolved complex technical challenges, including enhancing API efficiency, improving data processing algorithms, and ensuring smooth operations in high-traffic environments.	
Fellowship Associate - Backend <i>Fasset</i>	June 2024 – Aug 2024 <i>Islamabad, Pakistan</i>
<ul style="list-style-type: none">Contributed to the developing a Flexible Transaction Fee System for Fasset, implementing JWT authentication, Redis caching, and input validation using Sequelize ORM (PostgreSQL).Gained expertise in MVC backend architecture while collaborating with Fasset's national and international teams during the fellowship.Collaborated with Fasset's international and national teams, providing technical expertise and insights during decision-making processes.	

Teaching Assistant (CS4032: Web Programming) <i>National University of Computer and Emerging Sciences</i>	Feb 2024 – Jun 2024 <i>Islāmābād, Pakistan</i>
<ul style="list-style-type: none"> Conducted interactive demo sessions on core web development concepts, including JavaScript, React.js, and Node.js, for a class of 60 students. Assisted students with hands-on lab exercises, project development, and provided constructive feedback on coding practices, MongoDB usage, and HTML/CSS best practices. 	
Backend Development Intern <i>MRS Technologies</i>	July 2023 – Aug 2023 <i>Islamabad, Pakistan</i>
<ul style="list-style-type: none"> Contributed to the development of a IoT-based microgreens plant system for the MVP project. Designed and implemented backend using AWS Amplify, DynamoDB, GraphQL for data integration, and AWS Lambda for user sign-up via Cognito. Selected as one of the top 15 interns out of 13,000 candidates. 	
Web Development Intern <i>Musketeers Tech (Private) Ltd</i>	Aug 2022 – Sept 2022 <i>Lahore, Pakistan</i>
<ul style="list-style-type: none"> Contributed to the development of a Pet Store Management System using the MERN stack. Collaborated on full-stack development using MERN, Docker, and Git/GitHub. 	

PROJECTS

Dialer – VoIP Communication Platform <i>React.js, NestJS, PostgreSQL, Sequelize, Twilio, Socket.io, React Query</i>	
<ul style="list-style-type: none"> Developed a full-stack VoIP platform with real-time calling, messaging, voicemail, and CSV contact upload. Integrated AI-powered transcription endpoints for real-time speech-to-text and built scalable APIs with NestJS and PostgreSQL. 	
FYP - TranspaRent <i>MERN, Web3, Solidity, AWS, Terraform, Flask, Ganache, JWT</i>	
<ul style="list-style-type: none"> Revolutionized property rentals with a blockchain-driven platform for streamlined, secure, and compliant tenant agreements. Enabled AI-driven analytics for market pricing. Collaborated on a high-level architectural solution, integrating smart contracts for dispute resolution and real-time agreement validation. 	
Flexible Transaction Fee System <i>Node.js, PostgreSQL, Sequelize, JWT</i>	
<ul style="list-style-type: none"> Engineered a dynamic transaction fee engine using Node.js and PostgreSQL/Sequelize, supporting complex logic based on jurisdictions, transaction types, and user segments (promotional, loyalty). Implemented advanced configurations, including transaction threshold waivers and activity-based tiered discounts, with JWT securing administrative APIs. 	
mGreens – IoT Smart Agriculture Platform <i>AWS Amplify, DynamoDB, GraphQL, AWS Lambda, AWS Cognito</i>	
<ul style="list-style-type: none"> Contributed to the backend development of an IoT microgreens system, designing the cloud architecture using AWS Amplify and implementing a highly available DynamoDB database. Developed and tested AWS Lambda functions to enable secure user authentication and sign-up via AWS Cognito, and created efficient GraphQL queries for data retrieval from IoT sensors. 	

CERTIFICATIONS

Fundamentals of Remote Sensing (NASA)	2025
AWS Academy Microservices and CI/CD Pipeline Builders (AWS)	2024
freeCodeCamp: Back End Development and APIs	2023
freeCodeCamp: JavaScript Algorithms and Data Structures	2022
Datacamp: Introduction to Python	2022