

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

Bachelor of Science in Computer Science

Islamabad, Pakistan

2020 – 2024

EXPERIENCE

Backend Specialist

BaKhabar Kissan (BKK)

June 2025 – Present

Islamabad, Pakistan

- 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

QLU.ai

Aug 2024 – May 2025

Islamabad, Pakistan

- 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

Fasset

June 2024 – Aug 2024

Islamabad, Pakistan

- 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)	Feb 2024 – Jun 2024
<i>National University of Computer and Emerging Sciences</i>	<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	July 2023 – Aug 2023
<i>MRS Technologies</i>	<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	Aug 2022 – Sept 2022
<i>Musketeers Tech (Private) Ltd</i>	<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