

# Ahmed Baig

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## TECHNICAL SKILLS

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**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

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**National University of Computer and Emerging Sciences**

*Bachelor of Science in Computer Science*

Islamabad, Pakistan

2020 – 2024

## EXPERIENCE

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**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 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/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.

<b>Teaching Assistant (CS4032: Web Programming)</b> <i>National University of Computer and Emerging Sciences</i>	Feb 2024 – Jun 2024 <i>Islāmābād, Pakistan</i>
<ul style="list-style-type: none"> <li>Conducted interactive demo sessions on core web development concepts, including JavaScript, React.js, and Node.js, for a class of 60 students.</li> <li>Assisted students with hands-on lab exercises, project development, and provided constructive feedback on coding practices, MongoDB usage, and HTML/CSS best practices.</li> </ul>	
<b>Backend Development Intern</b> <i>MRS Technologies</i>	July 2023 – Aug 2023 <i>Islamabad, Pakistan</i>
<ul style="list-style-type: none"> <li>Contributed to the development of a <b>IoT-based microgreens plant system</b> for the MVP project.</li> <li>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.</li> </ul>	
<b>Web Development Intern</b> <i>Musketeers Tech (Private) Ltd</i>	Aug 2022 – Sept 2022 <i>Lahore, Pakistan</i>
<ul style="list-style-type: none"> <li>Contributed to the development of a <b>Pet Store Management System</b> using the MERN stack.</li> <li>Collaborated on full-stack development using MERN, Docker, and Git/GitHub.</li> </ul>	

## PROJECTS

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## CERTIFICATIONS

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