# Muhammad Umair Nadeem

umairnadeem779@gmail.com | +923350242344 | LinkedIn | GitHub | Portfolio

## Professional Experience

**.NET Full Stack Developer (10Pearls Shine Internship Program) – 10Pearls**                          **September 2024 – November 2024**

- Developed and tested a full-stack task management application using ASP.NET Core (.NET 8) and React.js with TypeScript, leveraging modern frameworks for performance and scalability.
- Implemented user authentication and role-based authorization with JWT, securing access to features for both users and administrators.
- Designed and executed unit and integration tests with XUnit, ensuring application reliability and robust functionality.
- Configured structured logging with Serilog, enabling detailed tracking of application activity for easier debugging and monitoring.
- Built a robust, scalable database layer using Entity Framework Core and SQL Server, implementing soft delete functionality, data validation, and optimized LINQ queries.
- Integrated SonarQube to monitor and enhance code quality, ensuring adherence to industry standards.
- Built a responsive, user-friendly frontend with React.js, implementing task management features and form validation using React Hook Forms and Zod.
- Implemented real-time updates for task status, enhancing the user experience with immediate feedback.
- Designed and implemented filter functionalities for task status, allowing dynamic server-side filtering and efficient data retrieval.
- Designed and implemented a custom middleware for exception handling, standardizing error responses and ensuring improved reliability during server failures.
- Used Git for version control, enabling collaborative development and maintaining efficient workflows.
- Participated in regular sync-up sessions with technical mentors and non-technical training sessions, enhancing both technical expertise and interpersonal skills.

## Projects

**Brain Tumor Detection System Using Artificial Intelligence**

- Designed and developed a full-featured frontend for a brain tumor classification system using React (TypeScript), focusing on clean architecture, modular code, and maintainable design patterns.
- Implemented JWT-based authentication, integrating with protected backend API routes to manage session-based access control.
- Built a responsive UI using modern CSS techniques including glassmorphism, scroll-triggered animations, and real-time feedback interactions.
- Developed an intuitive image upload pipeline with drag-and-drop support, client-side validation (file size, type, dimensions), and upload progress tracking.
- Integrated with a REST API powered by a trained CNN model (Xception using TensorFlow) to handle MRI analysis and tumor type prediction.
- Created a personalized user dashboard that securely fetches data from the backend, displaying user details and a history of MRI predictions.
- Worked closely with a backend built using NestJS and MongoDB, coordinating API design, routing, authentication, and database integration.
- Focused on scalable frontend development using reusable components, API integration patterns, and performance optimization techniques.

**Restaurant Management System**

- Led the end-to-end development of a comprehensive Restaurant Management System utilizing Java and MongoDB, demonstrating strong coding skills and software architecture understanding.
- Implemented core features such as order processing, inventory management, and billing, streamlining restaurant operations and enhancing efficiency.
- Designed a user-friendly graphical interface, prioritizing intuitive navigation and smooth user experience for both staff and management.
- Secured 3rd position at Software Design and Architecture Project Exhibition 2023 held in university.

**Dog Breed Identification System**

- Implemented the NasNetLarge neural architecture for high-accuracy breed identification.
- Fine-tuned the pre-trained NasNetLarge model on a curated dataset of dog images.
- Designed an intuitive interface using Streamlit for easy image upload and breed prediction.
- Conducted iterative testing and optimization to enhance model accuracy and efficiency.

**Image Search Web Application Using Unsplash API**

- Developed a dynamic web application for searching and displaying images using the Unsplash API.
- Designed an intuitive user interface with HTML and CSS, ensuring a polished and responsive user experience.
- Implemented asynchronous JavaScript functions to fetch and display images based on user input.
- Ensured the application is user-friendly and adapts seamlessly to various screen sizes.

## Education

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|---|---|---|
| BS. Software Engineering | Sir Syed University of Engr. & Tech. | 2021 - 2025 |
| CIE Advanced Level | Highbrow College | 2019 - 2021 |
| CIE Ordinary Level | Beaconhouse School System | 2016 - 2019 |

## Certifications & Courses

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|---|---|
| **Introduction To Android Mobile Application Development** | **Meta** |
| **Developing Front-End Apps with React** | **IBM** |
| **Developing Back-End Apps with Node.js and Express** | **IBM** |
| **Developing AI Applications with Python and Flask** | **IBM** |
| **GIT Fundamentals** | **10Pearls University** |

## Skills

- Programming Languages: Java, Python, C#, Kotlin
- Creative: Content Writing
- Frontend Development: HTML, CSS, JavaScript, React JS, TypeScript
- Backend Management: .NET, MongoDB, SQL, Node JS, Docker