Nauman Ahmed

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🔗 LinkedIn | GitHub | Portfolio Website

📍 Passau, Germany

Professional Summary

Results-driven Software Engineer with 5 years of hands-on development experience, including 2.5 years of professional expertise in building scalable, high-performance applications. Skilled in frontend development with ReactJS, Next.js, React Native, Vue.js, and TypeScript, complemented by strong experience in backend engineering using Node.js, Express, Django, FastAPI, and Flask. Proficient in designing and integrating RESTful and GraphQL APIs, with proven ability to deliver end-to-end solutions. Experienced in DevOps and cloud platforms including AWS, Docker, Terraform, Jenkins, Vercel, and Heroku, ensuring reliable deployments and CI/CD pipelines. Adept at working with databases like MongoDB, PostgreSQL, and MySQL to architect efficient data models. Collaborative team player with a strong foundation in Agile methodologies (Scrum, Kanban), version control, and DevOps best practices. Passionate about solving complex problems, optimizing performance, and delivering user-centric solutions.

Technical Skills

- **Frontend Development:** ReactJS, Next.js, React Native, Vue.js, TypeScript, D3.js, Jest, Playwright

- **Backend & APIs:** NodeJS, Express, Django, Flask, FastAPI, RESTful APIs, GraphQL

- **DevOps & Cloud:** AWS, Docker, Terraform, Jenkins, Vercel, Heroku

- **Databases:** MongoDB/Mongoose, PostgreSQL, MySQL

- **Agile & Tools:** Scrum, Kanban, Git, GitHub, DevOps practices, Figma

Professional Experience

Reinforcement Learning Researcher – Master Thesis
OnSite, Passau, Germany | April *2025 – Sep 2025*

- Designed and implemented a multi-agent reinforcement learning environment for UAVs using PyTorch, Gym, and NCP/Liquid Neural Networks.

- Developed a 3D coverage environment simulator with obstacles, no-fly zones, and agent collision handling.

- Applied communication-based policies with attention and LNNs to improve coverage efficiency and cooperation.

- Achieved ~93% average coverage in simulation across varied terrains, visualized results using Matplotlib and Plotly.

- Integrated TensorBoard logging and training pipeline for reproducible experiments.

Frontend Web Developer — EventPlanning24
Remote, Köln, Germany | Jun 2023 – Dec 2023

- Developed and improved features in a customer-facing event management platform using React.js, TypeScript, Next.js.

- Built and consumed RESTful APIs, integrating backend services with front-end interfaces.

- Optimized UI components and improved platform responsiveness for seamless customer experience.

- Collaborated with product teams under a funded NRW innovation scholarship to deliver maintainable solutions.

- Contributed to CI/CD pipeline integration for faster and more reliable deployments.

Software Engineer — Stratgit
Hybrid, Karachi, Pakistan | Sept 2019 – Sept 2021

- Developed web and mobile applications using React.js, React Native, and Vue.js, while also contributing to backend optimizations.

- Improved application performance and scalability through query optimization and code refactoring.

- Designed and tested responsive solutions, ensuring reliability and usability across multiple platforms.

- Participated in bug fixing, maintenance, and cross-team collaboration to deliver production-ready features.

Projects

- **Custom Child-Friendly Story Generator AI App using LLM, Django & React (University Lab Project - 2025)**
  AI-powered web application built with Django and React to generate child-friendly stories using LLM (Mixtral). Users can create accounts, generate customized stories by adjusting inputs, rate their favorite stories, and save them

for later. Preferences such as character gender and story type can also be specified. The project explores the use of filters like temperature and wordlists, and includes features like text-to-speech, query modification, user preferences, and unit testing. It supports flexible input and tailored output, though currently only in English language. [Link](#)

- **Platform for Digital Artists**
  Platform for digital artists to upload portfolios of artwork. Admins review submissions before publishing. Includes image cropping for thumbnails. Still under development. [Link](#)

- **AI-Powered Academic Assistant for Course Catalog Search (LLM & Django, University Lab Project)**
  Designed an assistant for academic catalog queries (prerequisites, outcomes, content) using PDF parsing, vector search with Sentence Transformers, and LLM integration for conversational responses. [Link](#)

- **Event/Wedding Management System**
  Role-based system with event creation, task assignment, scheduling, WhatsApp client messaging, deliverable tracking, and Google Sign-In. Built with React, Node.js, and MongoDB. [Link](#)

- **AI-Powered University Assistant (University Lab Project)**
  Assistant that provides cafeteria menus and university news using web scraping, CSV structuring, vector search, and LLM integration. [Link](#)

- **Restaurant Menu App**
  Full-stack app using React, Node.js, MongoDB, GraphQL, and JWT. Features include weekly menu scraping, user ratings/likes, newsletter subscriptions, and admin panel for management. [Link](#)

- **D3 Dashboard – Liver Cirrhosis Data Analysis (Apr 2024 – Aug 2024)**
  Interactive data visualization platform with React.js, D3.js, and PostgreSQL. [Link](#)

- **Image Processing & Cloud Management System (2019 – 2020)**
  Django backend with cloud database integration for image processing and measurement tools. [Publication](#)

Certifications

- React, NodeJS, Express & MongoDB - *The MERN Fullstack Guide (Udemy)* – [Certificate](#)

- Jenkins: Jobs, Pipelines, CI/CD and DevOps for Beginners – [Certificate](#)

- Playwright: Web Automation Testing From Zero to Hero – [Certificate](#)

Education

- **M.Sc. in Computer Science** | University of Passau, Germany | 2021 - 2025
- **B.S. in Software Engineering** | Usman Institute of Technology, Karachi | 2016 – 2020

Languages

- English – C1
- German – A1
- Urdu - Native