Shoukat Khan

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Objective — Motivated and detail-oriented Software Engineering with hands-on experience in web development, AI, and robotics. Skilled in building full-stack applications, designing interactive user interfaces, and applying problem-solving techniques to real-world projects. Seeking opportunities to contribute technical expertise, creativity, and teamwork to innovative software solutions while continuously expanding professional knowledge.

Skills

Programming	Python (Pandas, NumPy, Selenium), SQL, C++, Java, C
Databases	MySQL, MS SQL Server, MongoDB
Data Viz	Matplotlib, MATLAB, R
Web	HTML, CSS, JavaScript, jQuery, Ajax, React
Backend	Node.js, Express, Django
Frameworks	Django, Spring Boot, MERN Stack
Tools/PM	Jira, Agile, Scrum dashboard
Languages	German, English, Pashto, Urdu, Punjabi

Professional Experience

Emumba, Islamabad (I-10/3) **July – September 2025**
Backend Development Intern *8-Week Internship*

- Focused on learning and applying backend development using the **Django** framework.
- Gained hands-on experience with **PostgreSQL** for database design, queries, and optimization.
- Collaborated with senior engineers to understand real-world project workflows and best practices.
- Strengthened understanding of API development, database integration, and backend scalability.

Education

National University of Computer & Emerging Sciences (FAST-NUCES), Islamabad **2022 – 2026**
BSc Software Engineering (CGPA: 3.4/4.0)

Projects

Final Year Project (FYP) — Drowsiness Detection & Emergency Alert System **2025 – June 2026 (Expected)**

- Completed **Phase 1:** implemented data **preprocessing pipeline** and integrated **database-backed authentication** for secure access.
- Completed **Phase 2:** developed a **drowsiness detection model** with real-time monitoring and alert triggering.
- Built an **alert workflow** to generate warning messages and share the user's **live location** to a configured/desired contact.
- Currently working on final integration, testing, and documentation toward successful project completion by **June 2026**.

Web Application Deployment (CI/CD)

- Deployed a full-stack MERN application to a Kubernetes cluster using **Minikube**, ensuring scalable and reliable deployment.
- Containerized the application with **Docker** and created Kubernetes deployments and services for efficient resource allocation and management.
- Configured **Nginx** as a reverse proxy to handle API requests and improve routing performance.
- Automated CI/CD pipelines using **GitHub Actions** with a self-hosted runner, streamlining build, test, and deployment workflows.
- **Tools:** Docker, Kubernetes, Minikube, GitHub, GitHub Actions, Nginx

Resume Ranking System (Application of AI/ML)

- Developed an AI-powered system to automatically rank resumes based on a company's job description and hiring requirements.
- Implemented natural language processing (NLP) techniques to extract key skills, experiences, and keywords from resumes.
- Designed a matching algorithm to score resumes against predefined job criteria, improving shortlisting efficiency.
- Built the backend logic with **Python** and integrated **scikit-learn / NLP libraries** for text processing and similarity measurement.

- **Tools:** Python, scikit-learn, NLTK / spaCy, Pandas, NumPy

Multi-Tenant Task Management Backend (Django Backend dev)
- Built a backend system with **Django** supporting multi-tenant architecture for secure, scalable task management.
- Implemented role-based access, task assignment, and PostgreSQL integration.
- **Tools:** Django, Django REST Framework, PostgreSQL, JWT

Robotic Arm (Voice-Controlled) — Raspberry Pi
- Built a voice-commanded robotic arm that receives spoken instructions and drives motor movements via Raspberry Pi.

Property Management Website (Mern application)
- Developed a classic website; owned customer-facing React functionality and contributed to the backend.
- Implemented hooks, state management (Zustand/Redux), and reusable components.

Auto Shop App (Spring Boot)
- Built an application with Spring Boot and designed RESTful APIs for front-end/back-end interaction.
- Improved user experience through effective design and functionality in Java/Spring Boot.

AI Bias Mitigation System (RAG + LLM)
- Built a **Retrieval-Augmented Generation (RAG)** solution to generate more **unbiased, grounded responses** by referencing trusted documents.
- Added and maintained a knowledge base using **Wikipedia** and other **authenticated sources** to support fact-based, neutral outputs.
- Implemented document ingestion and retrieval so the LLM responds using **relevant context** instead of relying only on prior knowledge.
- **Tools:** Python, RAG, LLMs

Early Stress Warning Agent (LangChain)
- Developed a **LangChain-based agent** that takes user inputs (work hours and rest hours) and generates an **early stress-risk warning**.
- Designed the system to **remember past history** (trend-based reasoning) instead of using rigid **if-else** rules.
- Generated personalized warnings and short guidance summaries based on changes in the user's historical patterns.
- **Tools:** Python, LangChain, LLMs

Cafe Management System (Database)
- Created a C# Web Forms app with a relational database for inventory, orders, and customer management.
- Designed intuitive UI for staff workflows; reinforced C# and database skills.

Car Game Project (Data Structure)
- Developed a C++ game leveraging advanced data structures.
- Modeled the environment as a tree; used Dijkstra's algorithm to compute shortest paths to goals.

Aeroplane Management System (OOP Concepts)
- Implemented in C++ with OOP principles (inheritance, polymorphism, encapsulation, abstraction).
- Built a user-friendly interface to manage airplane operations.

Battleship Game (Semester 1)
- Implemented core programming concepts (loops, arrays, switches, conditionals, pointers) in C++ for classic gameplay.

Workout App (Semester 1)
- Designed UI in Figma and generated initial front-end code.
- Integrated basic React Native for navigation and core functionality.

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Achievements & Awards

- NUCES Dean's List of Honor (4^{th}, 6^{th} and 7^{th} Semesters).
- Scholarship earned at college level.

Certifications

- Coursera — Web Development (IBM)
- Udemy — The Complete Web Development Bootcamp (Angela Yu)
- Udemy — 100 Days of Python (Angela Yu)

Activities & Interests

- Participated in a Qirat (Qirat) competition at Punjab College; received a certificate for Qirat / Naat.