Roha Arslan

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Education

COMSATS UNIVERSITY   Lahore
BS in Software Engineering, CGPA: 3.29   July 2025

Relevant Coursework: Programming, Machine Learning, Data Structures and Algorithms, Artificial Intelligence, Introduction to Probability & Statistics, Multivariable Calculus, Numerical Computing, Data Warehouse & Mining, Computer Vision

KINNAIRD College for Women   Lahore
Intermediate in Computer Science, A+   July 2021

Divisional Public School   Lahore
Matriculation, A+   July 2019

Experience

DWP Group   Lahore
Software Engineer Intern   May 2025-Present

- Working on full-stack development for enterprise applications (AI and Multitenant products), including frontend, backend, and API integration.
- Testing and debugging complex workflows, ensuring smooth user experience and reliable system performance.
- Creating prototypes, updating documentation, and designing flowcharts for multi-tenant and HR application features.
- Implementing UI/UX enhancements, styling updates, and responsive design improvements.
- Researching emerging technologies and third-party integrations to enhance application capabilities.

Tech Cynosure   Remote
Junior Python Developer   Dec 2024- May 2025

- Built a modular AI voice assistant for hotel management, adaptable for kiosks and smart terminals, with online and offline modes.
- Designed a dynamic API engine using a centralized brain configuration to avoid hardcoded logic and support flexible workflows.
- Integrated multiple lightweight LLMs (GPT-2, GPT-Neo, BLOOM) and tested for speed, accuracy, and structured output (e.g. JSON).
- Added AIML fallback for basic offline interactions and ensured persistent user intent handling in multi-step conversations.
- Enabled natural voice interaction using faster-whisper (speech-to-text) and eSpeak (text-to-speech).
- Developed a customizable assistant builder that generated full configurations based on defined context, reducing setup time.
- While working on an API sync tool, Elicited system requirements and integration documentation to design seamless API interactions with external platforms like QBO and OrderTime.

- Developed and tested backend endpoints for a JavaScript-based sync tool that connected multiple platforms for automated data flow.
- Created custom service layers, polling workers, and job schedulers to manage real-time and periodic data synchronization.
- Implemented a polling mechanism to fetch updated Service and Job data, filtering for confirmed orders and processing them accordingly.
- Extended functionality to push transformed sales orders to OrderTime, ensuring proper formatting and structure based on its API.
- Integrated financial data by fetching payment details from QuickBooks and triggering payment fulfillment in OrderTime, maintaining transactional consistency.

SKMCH&RC   Lahore
Biomedical Engineering Intern   (1 month) July 2024

- Gained hands-on experience with a variety of medical equipment and machines.
- Performed analysis, calibration, and validation of medical devices.
- Worked first-hand with modules, ECG machines, and patient monitors etc.
- Worked on a customized temperature and humidity monitoring device.
- Familiarized with standard operating procedures and safety protocols in a clinical setting.
- Collaborated with healthcare professionals to ensure optimal functionality of medical equipment.

Upwork   Lahore
Freelance Article Writer   Nov 2023 - March 2025
- Produce high-quality articles for diverse clients.
- Collaborate with clients to understand content needs.
- Generate original content on relevant topics.
- Demonstrate SEO optimization skills for improved visibility and reach.

Regular Writes   Lahore
Article Writer   May – July (2023)
- Crafted engaging articles on ML and AI, making complex ideas accessible to a broad audience.
- Conducted in-depth research for accurate and valuable content.
- Worked closely with editors and peers to maintain high content standards.
- Ensured polished, publication-ready pieces.
- Adapted to different subjects and styles.
- Contributed to platform growth with timely, resonant articles.

Leadership and Projects
Google Developer Student Club (GDSC), CUI - Deputy Director Content Writing (Oct 2022–Feb 2023)
- Led the club's content strategy and managed a team producing technical and educational articles.
- Mentored writers, promoted tech literacy, and encouraged engagement with emerging technologies.

COMSATS Lahore Debating Society – Media Publications Officer (Apr 2023–Jul 2024)
- Managed digital presence through website, newsletter, and social media content.
- Designed event marketing materials, increasing workshop participation and audience reach.
- Coordinated communication strategy with the executive team to enhance member engagement.

Bachelor Thesis & Projects

- **"AROUQ "Blood Donation App** | React Native | Redux | Firebase | Google Maps API |MogoDb Compass –
  - Developed a full-stack mobile app connecting blood donors and recipients in real time, reducing delays from traditional donation channels. Implemented location-based donor matching, JWT authentication, real-time notifications, and in-app chat for seamless coordination. Proposed extensions including hospital integration, emergency alerts, and iOS optimization.
- **Chatbot** | Python | Neo4j
- **Pacman (reflex based)** | Python.
- **Practice Responsive Web Application** | React | CSS | JavaScript.
- **Handwritten Digit Recognizer** | Python | TensorFlow | Matplotlib | ML
- **Simpletron** | C
- **Practice Responsive Webpages** | HTML | CSS.
- **Hospital Management System** | **Java** | **MySQL** | Figma
- **Sudoku** | **C++** | .NET
- **Snake Game** | C++.
- **Educational Institute Management System** | Java
- **Tic Tac Toe (Single Player)** | C
- **"APNA CALENDAR" (personalized calendar)** | C

Skills & Interests
Technical: C| C++| Java | SQL | MySQL | Figma | HTML| ML| AI | NodeJS | React | JavaScript | Python | Neo4j
Language: English (Fluent), Urdu (Native), German (Basic)
Laboratory: DSA Concepts | OOP Concepts | Lt Spice | Proteus | Operating System Concepts | Balsamiq | ML