

July 2, 2025

Mohammed Arsalan Khan
MGM College of Engineering
Nanded, Maharashtra
India

Dear Mohammed Arsalan Khan,

Congratulations on your completion of a research-based internship, titled **Auto-Question Generation for the Relational Data Model**, at **AksharaPlus, LLC.**, beginning **February 2025** and concluding **June 2025**.

During this internship, you contributed to our ongoing initiatives in adaptive learning technologies and educational software development. The internship was structured to provide hands-on research and development experience aligned with real-world challenges in supporting K-12 and college-level learning through intelligent systems.

You fulfilled all responsibilities, which included:

1. Working remotely under the guidance of AksharaPlus engineering staff,
2. Attending and contributing to weekly status meetings,
3. Presenting progress and receiving feedback,
4. Preparing a final report documenting technical work, acquired skills, and professional development.

Specific details about your project include the following:

Project Title: Auto-Question Generation for the Relational Data Model

Project Goals: To build a system that automatically generates questions on relational data model concepts; to generate questions at multiple levels of difficulty, from beginner to advanced; to provide diverse question types for effective practice and evaluation; and to develop a modular framework that can be extended to other areas of DBMS.

Project Deliverables: A Python-based backend that generates questions using predefined templates and structured rules; Separate, testable modules for each concept like keys, constraints, and schema definitions; A simple interface (CLI and

Streamlit) for users to input schema details and choose subtopics; Complete documentation and a project summary slide deck for review and presentation; and ER diagram visualization using Mermaid to represent relational schemas.

Skills Developed: Strong grasp of relational data model concepts, including keys, constraints, and schema structure; Python development for template-based question generation and modular design; Streamlit integration for building an intuitive user interface and collecting inputs; developing maintainable, well-tested code using standard Python testing tools; and preparing clear documentation and concise project presentation materials.

We commend your commitment, collaboration, and initiative throughout the internship. AkshaPlus, LLC will serve as a professional reference, should you choose as you explore your career opportunities.

We wish you continued success in academic and professional pursuits and thank you for your valuable contributions to AksharaPlus, LLC.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Dhana Rao', is positioned above the printed name.

Dr. Dhana L. Rao
President and CEO