Web Technologies – Take home assignment (5 marks)

I semester MCA, Submission – handwritten on 10/11/2025

Title: Design and Implementation of a Dynamic User Registration System with Client-Side and Server-Side Validation Using PHP, AJAX, and MySQL

Context and Motivation

In modern web applications, user registration is a fundamental feature that serves as the entry point for secure access and personalized services. Ensuring the validity, integrity, and security of user-submitted data during the registration process is critical. This requires both **client-side validation** (to enhance user experience and reduce unnecessary server requests) and **server-side validation** (to ensure reliability and prevent malicious data entry).

Furthermore, asynchronous communication using **AJAX (Asynchronous JavaScript and XML)** allows for seamless data submission and dynamic response handling without reloading the page — a hallmark of modern, responsive web systems. This project simulates a real-world registration module that integrates these technologies into a full-stack workflow.

Problem Definition

Develop a web-based **User Registration System** that allows users to submit their personal information — including First Name, Last Name, Username, Date of Birth, Email, Contact Address, and Profile Picture — through a web form. The system must:

1. Perform **client-side validation** using JavaScript to ensure data completeness and correctness (e.g., valid email format, username pattern, image file size/type).

2. Perform **server-side validation** in PHP to re-verify all submitted data and prevent security issues such as SQL injection or invalid file uploads.

3. Use **AJAX** to send validated form data asynchronously to the server without reloading the page.

4. Store valid user data in a **MySQL database**, along with the uploaded profile picture path.

5. Display dynamic confirmation messages (success or error) to the user upon form submission.

Expected Deliverables

- A **front-end interface** (HTML, CSS, and JavaScript) that includes the registration form and performs client-side validation.

- A **back-end module** (PHP) that handles server-side validation, file upload management, and database operations.

- A **database schema** (MySQL) containing a table to store user information and the path of uploaded profile images.

- Integration of **AJAX** for asynchronous data transmission and dynamic content update on submission.