

Full Stack Web Development Internship Report

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Internship Provider: Microsoft Learn Student Ambassador (MLSA)

Introduction

I, Tonmoy Mukherjee, am a third-year Computer Science student at KIET Group of Institutions. I recently completed an internship as a Microsoft Learn Student Ambassador (MLSA), where I focused on Full Stack Web Development. This internship provided an exciting opportunity to learn web development in-depth, giving me hands-on experience in building both the frontend (what users see and interact with) and the backend (the server side where data is processed and stored). Working through this program allowed me to develop my skills in a practical setting, tackle real-world tasks, and build confidence in my technical abilities.

Internship Objective

The main objective of this internship was to become more skilled in creating interactive and responsive web applications. Through Microsoft's MLSA program, I aimed to gain hands-on experience with both frontend and backend technologies, which are essential for a full-stack developer. My goal was to understand the full process of web development and apply it through meaningful projects that would simulate real-world tasks.

Tools and Technologies Used

During this internship, I used several important tools and technologies that are commonly used in web development:

- **Frontend Development:** I used HTML (for structure), CSS (for styling), and JavaScript (for functionality) to create visually appealing and interactive applications.
- **Version Control:** GitHub was used to manage my code, keep track of changes, and share projects.
- **Code Editor:** Visual Studio Code (IDE) was my main code editor, which provided a smooth environment for writing, testing, and debugging code.

Project 1: Todo List Application

- **Objective:** My goal for this project was to create a simple and user-friendly application that would help users manage their daily tasks by allowing them to add, delete, and organize tasks.

- **Description:** The Todo List application was one of the first projects I worked on. This app allowed users to add tasks through a form and displayed each task instantly on the page. Users could delete tasks individually, all without needing to refresh the page. This interactivity was achieved using JavaScript's event handling, which enabled actions like clicking buttons to add or remove tasks. The project helped me improve my skills in creating smooth and interactive experiences with JavaScript, as well as strengthen my understanding of how to structure web pages with HTML and style them using CSS.
- **Key Learnings:** This project was essential for building a strong foundation in JavaScript, particularly in writing functions and handling events like button clicks. By working on this, I learned how to make web pages more interactive. Additionally, I gained experience in designing clean and user-friendly interfaces using HTML and CSS, which are key skills for any web developer.

Project 2: Simple Calculator

- **Objective:** The goal of this project was to develop a basic calculator that could perform arithmetic operations like addition, subtraction, multiplication, and division.
- **Description:** For the calculator project, I created an engaging interface where users could enter numbers and select operations to see the result instantly. This calculator was designed to provide quick feedback by showing results immediately as the user interacted with it. This real-time functionality made the application more responsive and engaging. I used JavaScript for performing the calculations and updating the display with each input, while HTML and CSS were used to create a simple, clear layout that made the application easy to use.
- **Key Learnings:** This project further strengthened my understanding of JavaScript, particularly in managing user input and displaying results in real time. It also helped me practice building clean and straightforward user interfaces with HTML and CSS, which is important for providing a good user experience.

Conclusion

Overall, the MLSA internship was a highly valuable experience that gave me practical knowledge and confidence in full-stack web development. By working on projects like the Todo List and Calculator applications, I was able to improve my problem-solving abilities and learn how to apply various tools and technologies together effectively. This hands-on experience in web development has broadened my technical knowledge and prepared me to handle real-world challenges in the field. The skills I've gained during this internship, from creating interactive applications to managing code with GitHub, have built a solid foundation for my future work as a web developer.