

Day 18 – 21 July 2025 (Monday):

Browser Automation Implementation

On this day, we progressed further into the **Automated Search Bot project** by implementing **browser automation** using Playwright. The primary objective was to create an agent capable of performing **Google search queries automatically** and extracting relevant top URLs without manual intervention.

The session began with configuring Playwright for **headless browsing**, allowing the browser to run in the background without a visible interface, which improves efficiency and speed. I learned how to set up **browser contexts, pages, and navigation commands**, which form the foundation of automated browsing tasks.

Next, I implemented the agent to **simulate user search behavior**, typing queries into Google, clicking search buttons, and retrieving results from the first few pages. Emphasis was placed on handling dynamic web content, managing delays, and extracting URLs reliably even when page structures changed slightly.

Practical exercises included testing multiple queries, debugging errors, and optimizing the workflow to handle large sets of searches. The mentor also discussed the importance of **ethical scraping** and respecting website restrictions while automating data collection.

Learning Outcome:

Gained hands-on experience in **browser automation** and **web data collection techniques**. Understood how to simulate human browsing behavior programmatically, extract useful information, and prepare it for AI processing in automated workflows.