Part 1: Scraping review data from e-commerce websites (Backend)

Input: A link to a shop on an e-commerce website (Scraping from Shopee and Tiki might be easier because their security against scraping is weaker than Lazada’s)

Output: The products and product reviews of that shop

Requirements: With the shop link, the software will initially scrape the data of the products that the shop has (you can set a limit for the number of products, number of reviews; scraping all products is not mandatory, you can just scrape a part to make it less difficult) For each product, output the product link along with the reviews it has The software should not be affected by CAPTCHA to prevent data scraping (or you can log in using cookies to avoid bots)

Part 2: Running scraped data through an existing AI sentiment analysis model (Backend)

Input: Review data of the products.

Output: The percentage of positive, negative, and neutral reviews of the products based on the language used in the reviews.

Requirements: Use an existing model (for example, Phobert) to assess the positivity, negativity, and neutrality of the product reviews (or you can use a custom model). Export to a readable API format (e.g., JSON, CSV, or XML).

Part 3: Serving the AI output data through an API (Backend)

Input: The percentage of positive, negative, and neutral reviews of the products.

Output: An API that the frontend can call to retrieve data for visualization.

Requirements: It should be a REST API. The API is private for the frontend only, only the frontend can call it.

Part 4: Website to display and visualize the data of the reviews

Input: API, Shop link.

Output: A website that can call the API to retrieve and display, visualize the data. It can also call the API to send the shop link data to the API, so the backend can scrape the data.

Requirements: The website can call the API to display and visualize the data. The website can call the API to send the shop link data to the API. Display the average percentage of positive, negative, or neutral reviews of the entire shop. Consider implementing a feature to display the average percentage for products within the same category in the shop.