### **Recommendation Utilities (recommendation\_utils.py) Analysis**

This table breaks down the functions responsible for calling the AI model to generate recommendations for various parts of the application, such as client requirements, business priorities, and project specifications.

| **Function/Method Name** | **Location of the API/Function** | **Input Parameters** | **Output [Datatype]** | **Comments** |
| --- | --- | --- | --- | --- |
| clean\_to\_list | recommendation\_utils.py | result: str | str | A utility function to clean the raw string output from the LLM. It removes common markdown code fences (e.g., ```json) to prepare the string for reliable JSON parsing. |
| get\_ai\_client\_requirements | recommendation\_utils.py | enterprise\_details: str, client\_requirements: str | str | Takes existing client details and requirements, feeds them into a specific prompt (ai\_suggetion\_for\_additional\_req\_prompt), and asks the LLM to generate suggestions for additional requirements. |
| get\_ai\_business\_priorities | recommendation\_utils.py | spoc\_role: str | dict or list | Takes a client SPOC's role (e.g., "CEO"), uses a prompt to ask the LLM for typical business priorities for that role, and parses the structured JSON output directly using JsonOutputParser. |
| get\_ai\_proj\_sepc\_recommendations | recommendation\_utils.py | prompts: str, client\_data, seller\_data | dict or list | A versatile function that takes a dynamic prompt, client data, and seller data to generate detailed project specifications. It invokes the LLM, cleans the output string with clean\_to\_list, and then manually parses it into a Python dictionary or list. |