

CMPE476 - Assignment 2: LLM Usage Report

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In this project, I have used ChatGPT and Gemini for speeding up the learning and research parts. I haven't used the codes generated by them in the project. Instead, I learned the concepts and how to implement the project in a very fast way and applied what I learned. Also, I used ChatGPT for commenting out the source code. This was a very fun and educative project for me. You can find the prompts below.

ChatGPT:

- Hi, I have a distributed systems assignment and using ChatGPT is allowed as mentioned in the description pdf document I supplied. I want you to explain me how I should approach the problem?
- Can you explain how load balancers forward a request to one of the reverse proxies? And also how reverse proxies forward requests to the servers?
- In server code, how can I handle client function in a separate thread. Can you help me?
- I wonder something: the handle_client function which is executed in another thread takes the parameter client_socket. I wonder if it takes it as pass by reference or pass by value. In other words, is it a probability that the program giving an error due to segmentation fault etc?
- can we use global variables in handle_client thread?
- is it possible to handle SIGTERM signal?
- Can you comment out this code?: <code copy paste>

Gemini:

- Hi, I need your help about signal handling in C. My program creates some child processes and I want to re execute them if they are failed somehow. Can you help me?
- Is there any way to catch the pid of the failing child process?
- On the other hand, I want to terminate all my child processes with SIGTERM signal when the parent process got a SIGSTP signal. can you help me with that too?
- however, in this case, when we send SIGTERM to the child processes and they are terminated, aren't they send a SIGCHLD signal to the parent process? in this case, the parent process will relaunch them right? is this the case? if so, how can we handle this?
- I have a question. Should I wait all child processes even if I used kill function to terminate them?
- how can I wait all processes before terminating the program?
- what does wait(NULL) return?