In the past few weeks I have been familiarizing myself with the AlphaEvolve paper and the OpenEvolve framework. I've read through the 44 page AlphaEvolve paper to help me have a stronger understanding of the theoretical foundation behind the system. From this I have been able to understand the process used to evolve these programs, and the kinds of problems it is designed to solve. This gave me a clearer picture not just of the technical details, but also how AlphaEvolve/OpenEvolve approaches optimization problems in an adaptive way.

After reading through the paper I successfully set up OpenEvolve on my system and verified the installation by running one of the provided example problems. That being the circle packing problem, in this problem things such as boundaries, packing density, and preventing overlaps are important for the code's evolution. Running this example showed me how OpenEvolve structures a problem, how the solution evolves over multiple iterations, and how the results can be interpreted. This example was important because it confirmed that my system is properly configured and that I can now focus on exploring future problems rather than troubleshooting setup issues.

Moving forward, I plan to continue working through the provided example problems available within OpenEvolve. Each example highlights different aspects of the framework, and by working through them I should be able to gain a deeper understanding of the system’s potential applications. This has also allowed me to draw clearer connections to our project and begin considering how the same methods can be adapted to address the challenges we may face when the building process begins.

In addition to the technical exploration, our team has also been actively working on sorting out roles and responsibilities for the project. We have spent some time discussing how to divide the work so that each member can focus on their strengths, while also ensuring that no single person is overloaded. So far we have been able to decide who will be project manager and who will be our scrum master. In this coming week we should be assigning roles for the rest of the group, as well as who can work to fill in roles when a member may be missing. Having these roles clearly defined will make our workflow more organized, reduce redundancy, and allow us to work more efficiently as a team.

Finally, we discussed with our sponsor the idea of building a script to automatically document the different iterations of the evolved algorithms. This being things such as the time taken for the evolution to happen along with other corresponding evaluation results. At this time the outputs are not stored in a structured or easily analyzable format through OpenEvolve. In realizing this we came up with the idea to checkpoint each version of the algorithm and capture its evaluation metrics in a CSV file. By doing this we can generate a clear record of progress over time and understand when and what algorithms work best through it. This logging would also take into account the niceness level in terms of our prompts . Ultimately, it would provide both transparency and a data driven way to evaluate the effectiveness of different practices within OpenEvolve.