Yana Slavcheva COS 4091A Fall 2025

Project: DNA Sequence Visualizer and Analyzer

Prof. Zachary Hutchinson

## Progress Report 2

Last week, I continued my research. I found several useful papers on string matching in DNA/RNA sequences, methods for making pattern searching more efficient, the general challenges of DNA analysis, and more. I found most of these in the ACM Digital Library. I also spent some time learning more about the structure of FASTA files through instructional videos. I then located online repositories for free FASTA files and downloaded several for testing. Next, I discovered that previous students' projects were available in the library database and reviewed some of them. This was very helpful, as it gave me a much better understanding of the expected complexity and scope for my own project.

I wanted to move from planning and researching to implementation, so I began coding the class that will be responsible for parsing the FASTA files and the main abstract class. My immediate goal is to finalize this parser and begin implementing the other core classes and logic this week.