Related work:

- **Brute Force (BF):** It is a basic method that doesn't perform any processing on pattern or text, only comparing the text and the pattern character by character from the left side and shifting the pattern by one position in the next comparison if a match or mismatch occurs. The drawback is the long running time of BF.

- **Deterministic Finite Automata (DFA):** There are methods that rely on DFA and the dynamic programming approach. Finite automation led to it being not often suitable for large sequences. Need a large size of memory as a result of dynamic programming.

- **Knuth Morris Pratt Algorithm (KMP):** It makes a comparison between the text and the pattern from the left side. Make preprocessing on the pattern and creating the longest proper prefix which is also suffix (LPS) table of the same size as the pattern. LPS is used to shift the pattern while matching. KMP works well even if the size of the alphabet is large. When the alphabet size or pattern length is small, KMP takes a long time to run.

- **Boyer Moore Algorithm:** It makes a comparison between the text and the last character of the pattern. Perform preprocessing over the pattern and creating two tables by using a bad character rule and a good suffix rule to compute the number of pattern shifts and take the maximum number of them to reduce comparisons when a mismatch occurs. The drawback is it takes preprocessing time to create two tables relying on the length of the pattern and alphabet size.

- **The Divide and Conquer Pattern Matching (DCPM):** It is a comparison-based algorithm. At the start, the preprocessing phase searches in the text for the last character and the first character of the pattern separately and saved the indexes of the findings in the rightmost character table and the leftmost character table respectively. By using the two tables, find the windows of the text by computing the distance between the fist character and the last character of the window is the same as the length of the pattern. In the matching phase, compare the other characters of the windows with the pattern. The first algorithm of the current paper promotes the DCPM by determining the windows with the one search in the text.