

Progress Report

Simon Sepiol-Duchemin

June 19, 2025

1 Research Objective and Goal

The objective of this study is to improve the booleanization part of algorithm from Truong et al. (2021). Starting with understanding the nonnegative matrix factorization problem and algorithms to solve it.

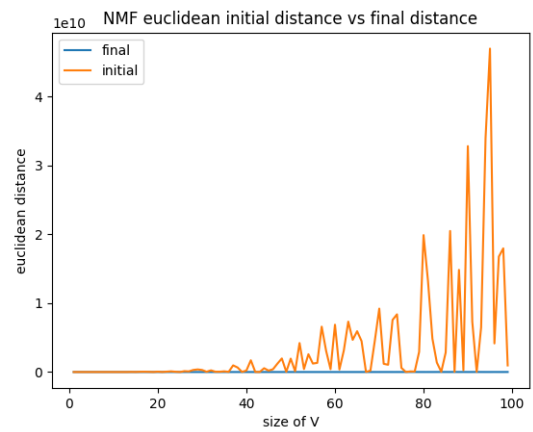
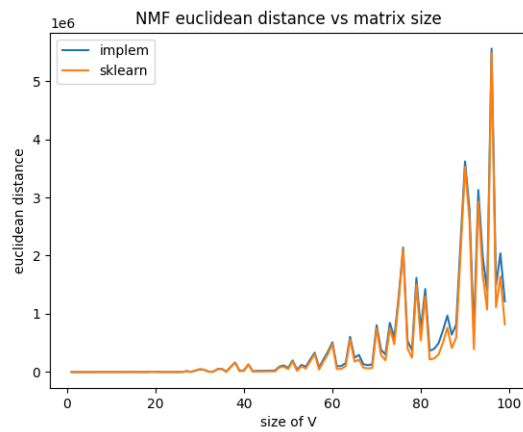
2 Short-Term Goals

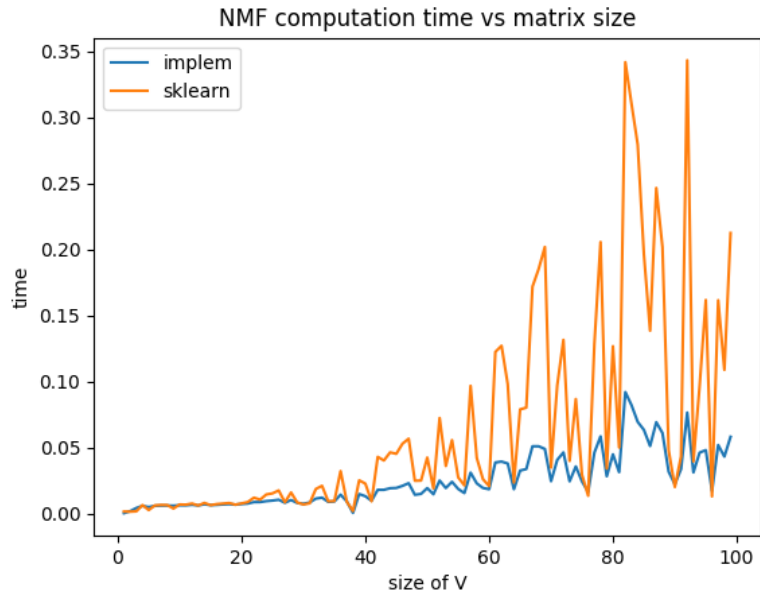
1. Implementing the NFM algorithm presented in Truong et al. (2021).

3 Progress

1. I have implemented the algorithm using numpy

4 Results





References

Truong, D. P., Skau, E., Desantis, D., and Alexandrov, B. (2021). Boolean matrix factorization via nonnegative auxiliary optimization. *IEEE Access*, 9:117169–117177.