

# Proof of concept Zstandard custom compression dictionary for FASTA files

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## Abstract

### Background

Zstandard (Zstd) represents a lossless data compression algorithm that is highly configurable and is aimed at coupling high compression ratios with fast compression/decompression performance. Previous studies paired specific Zstd configurations with various file formats in bioinformatics to reduce total data volume. This paper presents a “training mode” pipeline, written in the Julia programming language, wherein a custom compression dictionary is generated from a sample FASTA set in order to explore further compression improvements.

### Results

### Conclusions

## Introduction

The storage of biological data has represented a significant topic of research, with a number of challenges presented over subsequent generations of technological development, with current challenges discovered as the volume and complexity of data continues to increase[1, 2].

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