

Editorial

# Editorial: Special Issue on Data Compression Algorithms and their Applications

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**Abstract:** This Special Issue of *Algorithms* is focused on data compression algorithms and their applications.

**Keywords:** prefix free codes; lossy compression; PDE solvers; tree compression; compressed sensing; time-universal data compression

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## 1. Introduction

Data compression is classic research area in computer science focusing on the efficient storage and communication of data. Data compression is ubiquitous throughout science and engineering and essentially any data of non-trivial size is stored or communicated in compressed form on any modern computer system. With rapid advances in data collection in areas such as e-commerce, astronomy, climatology, bioinformatics, and particle physics, the need for efficient data compression is stronger than ever.

## 2. Special Issue

To encourage further original research on data compression algorithms and their applications, we set up a Special Issue of the MDPI journal *Algorithms* devoted to this topic. The call-for-papers invited articles dealing with the foundations of data compression and their applications covering the range from theory to practice. Of particular interest were articles on loss-less data compression, lossy data compression, algorithms on compressed data, compressed data structures, and applications of data compression.

All of the articles submitted to the Special Issue were evaluated by invited experts. In many cases, their detailed comments improved the technical strength and the quality of presentation. After several rounds of revisions and reviewing, seven of the submitted articles were accepted for inclusion in the Special Issue. These seven articles present new results for a wide variety of data compression topics: prefix free codes [1], finding patterns using lossy compression [2], compression in PDE solvers [3], compression and embedding of trees [4], compaction of Church numerals [5], compressed sensing [6], time-universal data compression [7]. Combined these results represent some of the current trends in the field. We hope that you will enjoy reading them and find them useful in one way or another.

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**Conflicts of Interest:** The author declares no conflict of interest.

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