

PRIN Multicriteria DS

4th meeting

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&

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Participants (as of 31/1/2022)

- Lavinia Egidi
- Giovanni Manzini
- ~~Manuel Striani~~ (now with uniTo)
- ??? (two calls with no applications)

Research activities:

- [T3, T4] Compressed learned indices (with unipi, more later from Giorgio)
- [T2] Compressed linear algebra (with unipi, more later from Francesco)
- [T2, T4] Multicriteria optimizer for NN (with unimi, ready to go)
- [T3] Towards multicriteria compressed indices (with unipa more later)
- [T4] PPM data compression vs NN compression (with unipi and unipa, stalled)

We hope to recruit someone to help with the last three items

[T3] Towards multicriteria compressed indices

A New Class of Searchable and Provably Highly Compressible String Transformations R. Giancarlo, G. Manzini, A. Restivo, G. Rosone, M. Sciortino

We present a new family of data transformations with the same indexing and compression capabilities of the traditional BWT. These family offers different tradeoffs between compression and search speed that need to be investigated experimentally.

Journal version almost ready for submission.

[T3] Towards multicriteria compressed indices

Space Efficient Merging of de Bruijn Graphs and Wheeler Graphs L. Egidi, F. Louza, G. Manzini

We considered the space efficient merging of (variable order) de Bruijn graphs, a compressed index used for genomic sequences. We obtained some preliminary results on the more general problem of Wheeler graphs merging. The next step would be to use Wheeler graphs for the design of multicriteria compressed indices

Published on Algorithmica (2021)

That's all folks