

Probleemstelling

Wetenschappelijke vorming

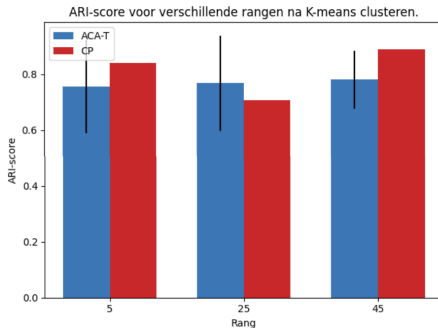
Wannes Croes & Lowie Debois

Faculteit Wetenschappen
KU Leuven
Informatica

May 4, 2024

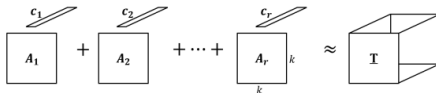


Observatie: adaptieve decompositie clustered goed.



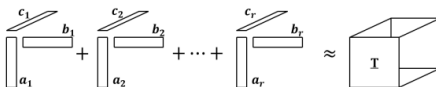
Observatie: verschillende adaptieve decomposities
matrix methode:

- ▶ lage relatieve fout
- ▶ hoge relatieve kost



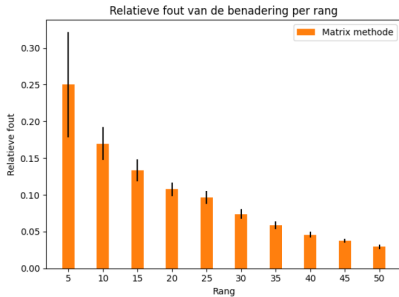
vector methode:

- ▶ hogere relatieve fout
- ▶ lagere relatieve kost

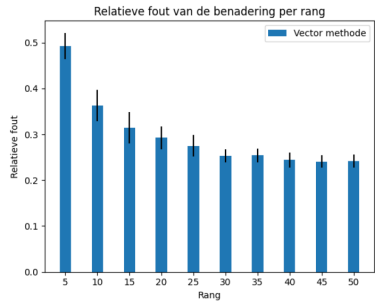


Observatie: Relatieve fout

Matrix methode

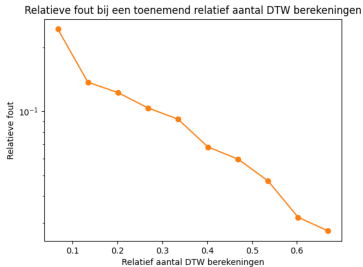


Vector methode

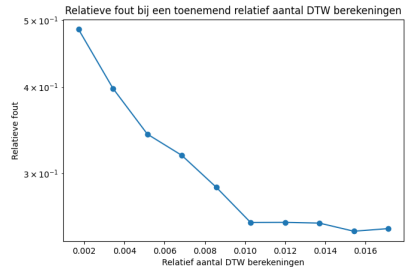


Observatie: DTW berekeningen

Matrix methode

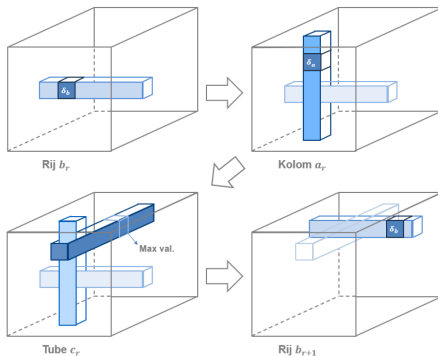


Vector methode



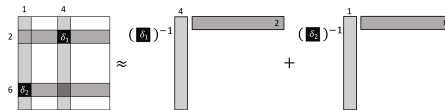
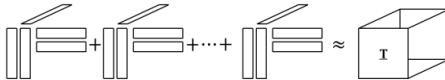
Vraagstelling: Adaptive Cross Approximation (voor tensors)

- ▶ term = matrix x tube
- ▶ term = rij x kolom x tube
- ▶ term = ...



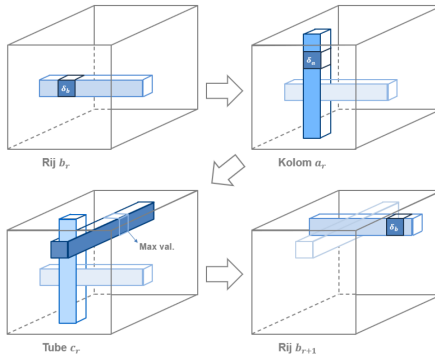
Hypothese: Betere benadering

- ▶ Intuïtie: meeste informatie in enkele vectoren
- ▶ ACA selecteert vectoren met veel informatie
- ▶ Meerdere rijen en kolommen: betere clustering



Vereisten: implementeren

- ▶ Python
- ▶ Thesis Tuur
- ▶ AMIE Dataset



Referenties:

- ▶ **Masterthesis:** T. Vanhoof, Adaptieve tensor factorisaties om versneld tijdreeksen te clusteren, 2023
- ▶ **Dataset:** T. Decroos, K. Schutte, T. Beéck, B. Vanwanseele, and J. Davis. AMIE: Automatic Monitoring of Indoor Exercises: European Conference, ECML PKDD 2018, Dublin, Ireland, September 10-14, 2018, Proceedings, Part III, pages 424–439. 01 2019.