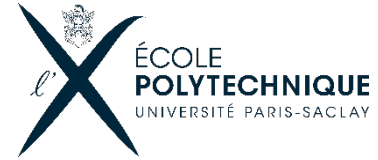




in collaboration with



Randomized Search Heuristics

Martin Krejca

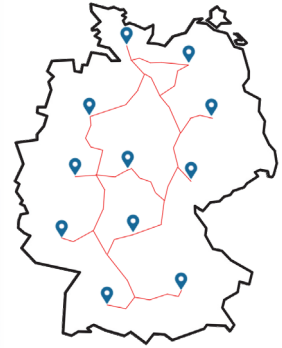
Joint work with
Benjamin Doerr

Optimization in Real Life



Personal Scale

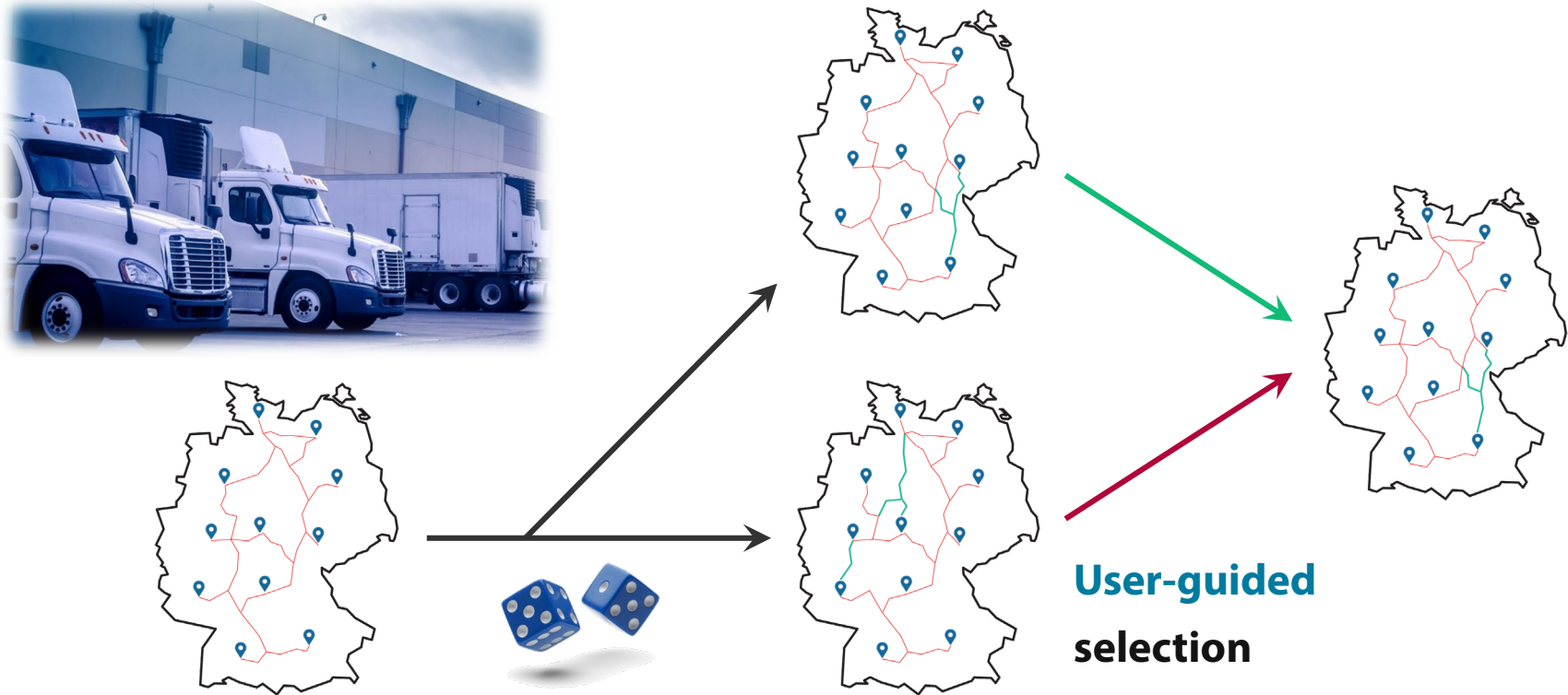
- easy
- cheap



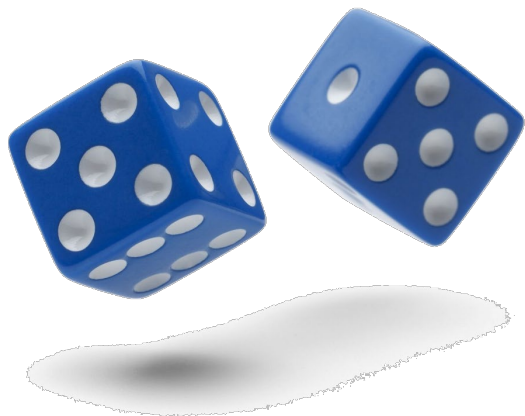
Industrial Scale

- hard
- expensive

Randomized Search Heuristics

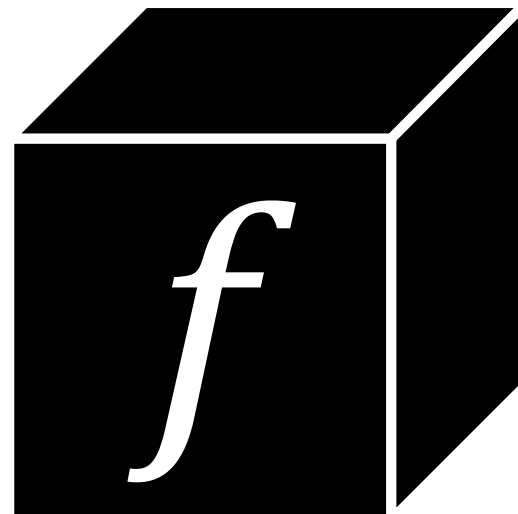


Theoretical Analyses



Algorithm/Method

Theory



User Guidance

Theoretical Example



Two modes of operation

Independent
sections



Dependent
sections



Our Result

Independent
sections



Traditional approaches

$$\Theta(n \log n)$$

Our approach

$$O(n \log n)$$

Dependent
sections



$$\Theta(n^2)$$

$$O(n \log n)$$

Our Result

$$\text{Speed-up: } \Omega\left(\frac{n}{\log n}\right)$$

$$\xRightarrow{n=1000} \approx 144$$

Equivalent to 1 day into 10 minutes.

