

## **Optimal transport for geometric analysis of data distributions**

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### *Summary*

Many data samples can be represented as (probability) distributions on suitable feature spaces, such as histograms, point clouds, image densities, et cetera. In a more abstract way, whole datasets can be interpreted as distributions on sample space. Optimal transport provides an intuitive way to compare such distributions by measuring how difficult it is to transform one into the other. It is particularly robust to quantization noise and offers a rich geometric structure that lends itself to non-linear data analysis. The talk will give a gentle introduction to the topic of optimal transport, show which types of data it may be useful for, and give a few pointers on computational aspects.