

# Taut-String for High Dimensional Data

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## **Abstract**

We study the problem of density estimation with total variation minimization. The basic ingredient is an equivalence relation between the taut-string algorithm and total variation minimization. Moreover, we show scale-space properties of total variation minimization which allows to explain the taut-string algorithm as a two-step algorithm. This explanation allows to generalize the algorithm to higher dimension, using Voronoi-Diagrams and filtering of pre-processed data. Moreover, we discuss various other filtering techniques.