

Large Scale Extraction and Retrieval of Semantics from Carpark Surveillance Videos

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Introduction

The use of CCTV is no longer a foreign concept, however, most of the captured footage are stored and left unprocessed. These information-rich data can be extracted for various usages such as obtaining statistical information as well as retrieval of event or incidents. This work propose methods to extract important semantics such as colors, motion and proposed a ranked retrieval engine to return similar events of interest from a user-described vehicle motion efficiently.

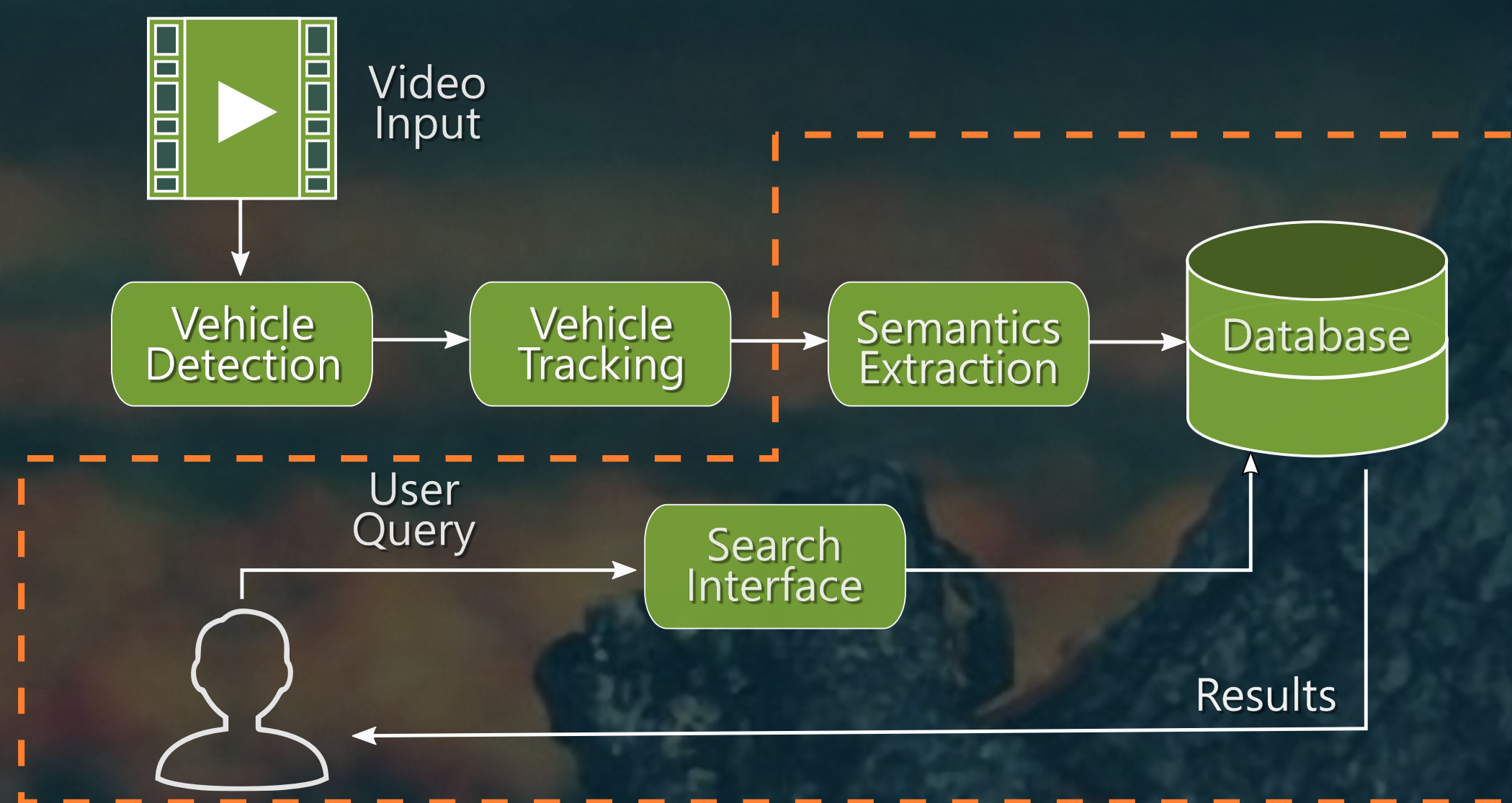
Problem Statement

- Semantic rich informations are not processed
- Manual extraction of semantics are time consuming & labour intensive
- Retrieval of intended video shots were done manually

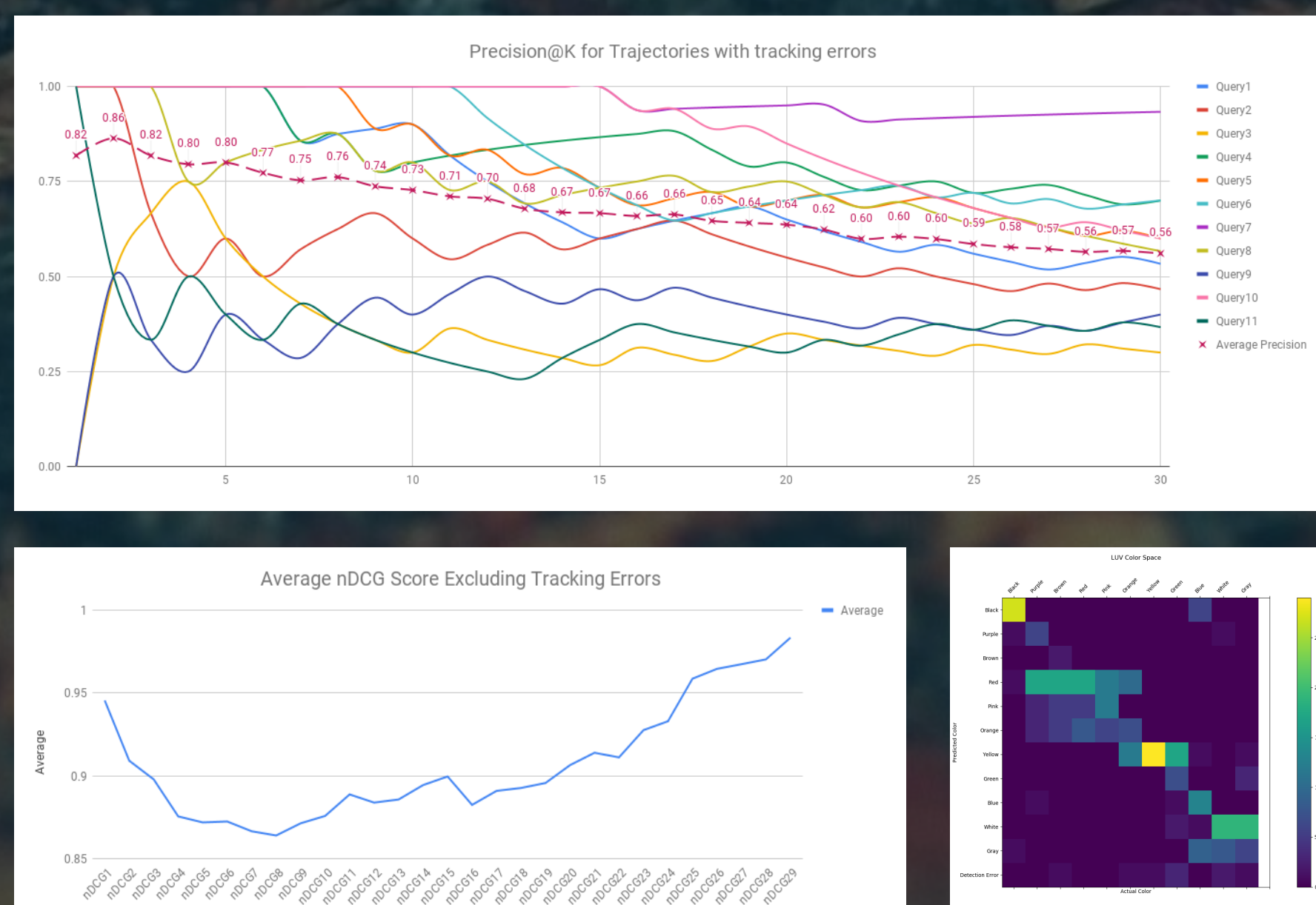
Objective

- To design a framework for large-scale **extraction** of meaningful traffic **video semantics** from the scene and object context.
- To perform **retrieval** of surveillance video clips based on given semantics and events query accurately and reliably.

Methodology

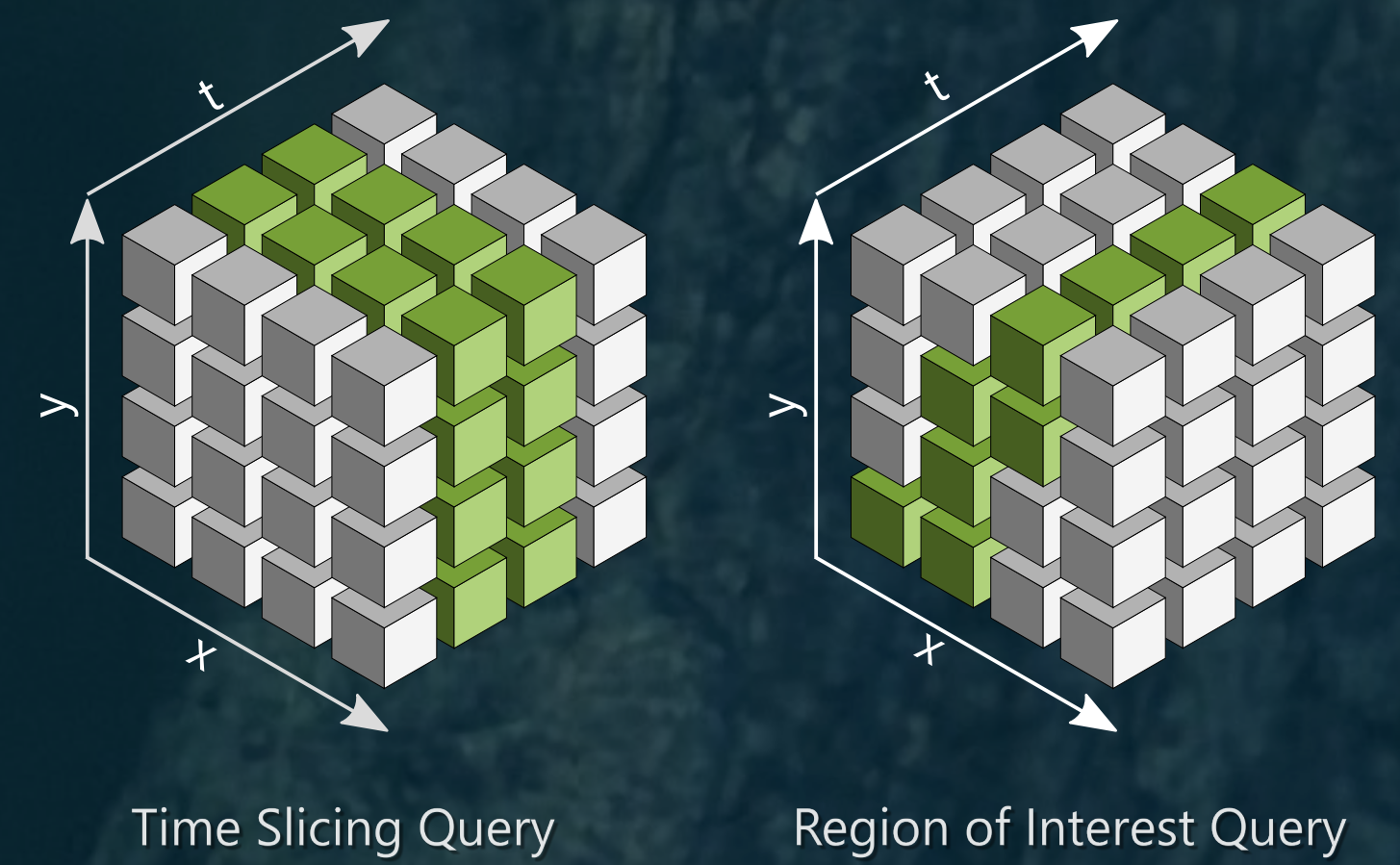


Results

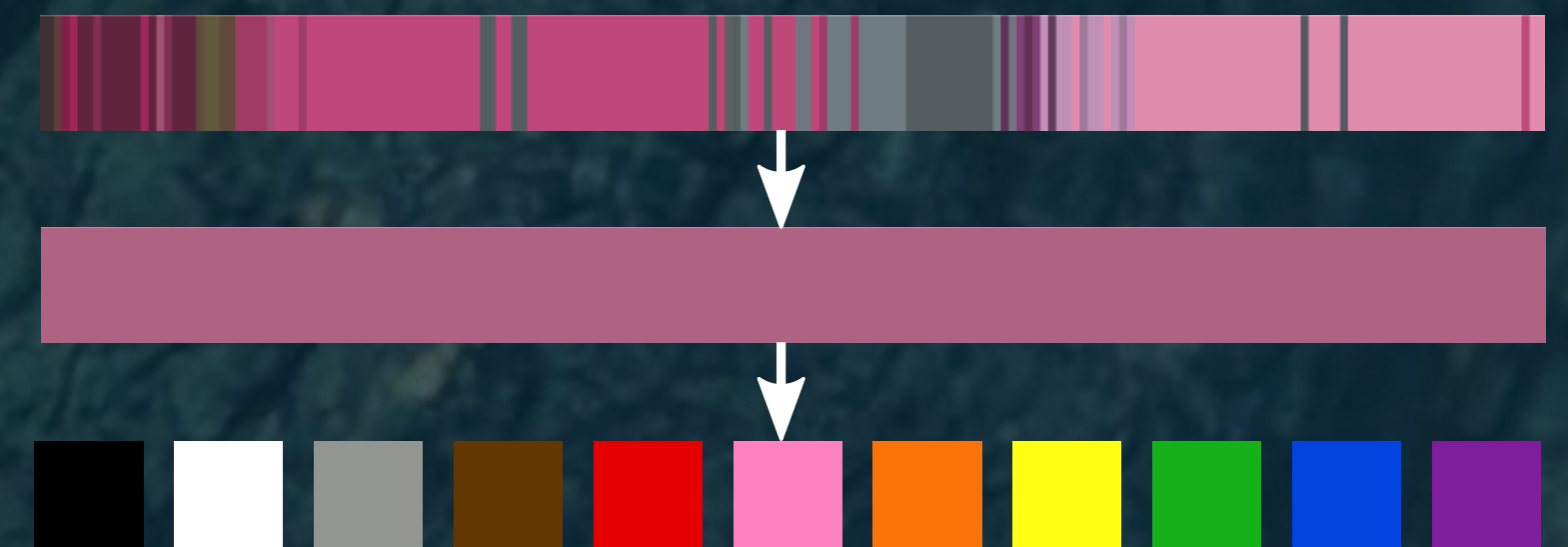


Key Concepts

Atom Cubes

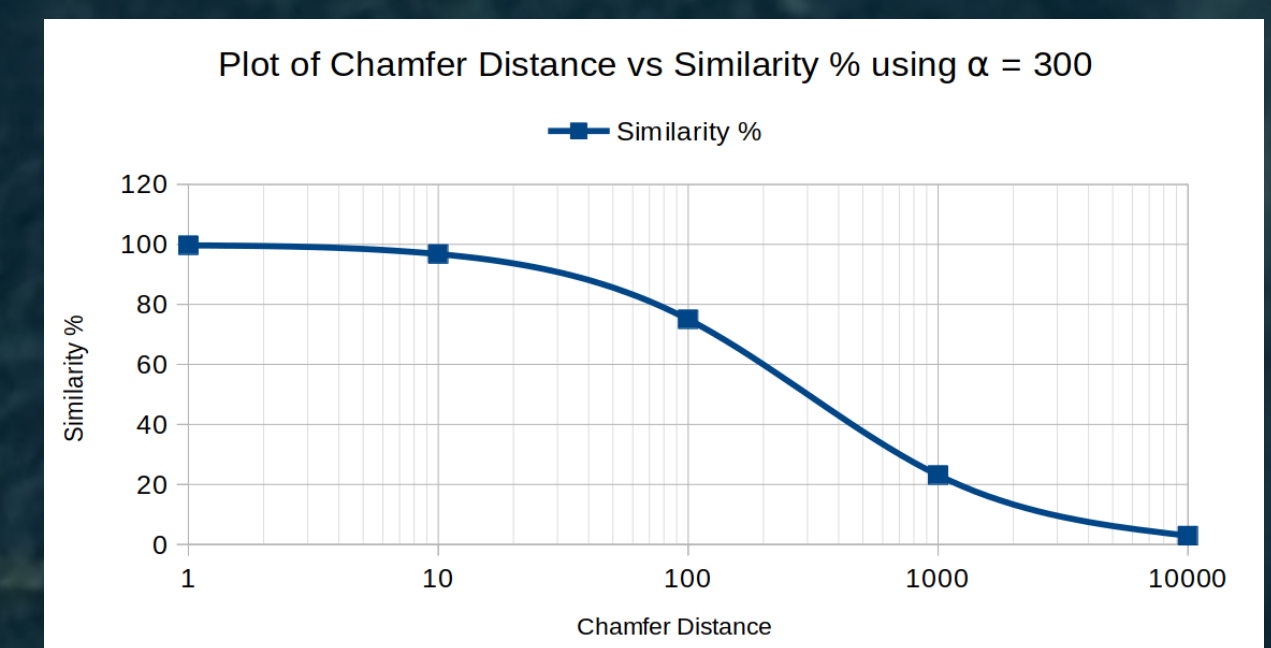


Average Dominant Color & Color Terms



Chamfer Distance

$$D_{Chamfer}(P, Q) = \frac{1}{|P|} \sum_{t_p \in P} \min_{t_q \in Q} |t_p - t_q|^2$$



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