

Tentative Tests on Two Rapid Multispectral Classifiers for Classifying Point Clouds

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Problem

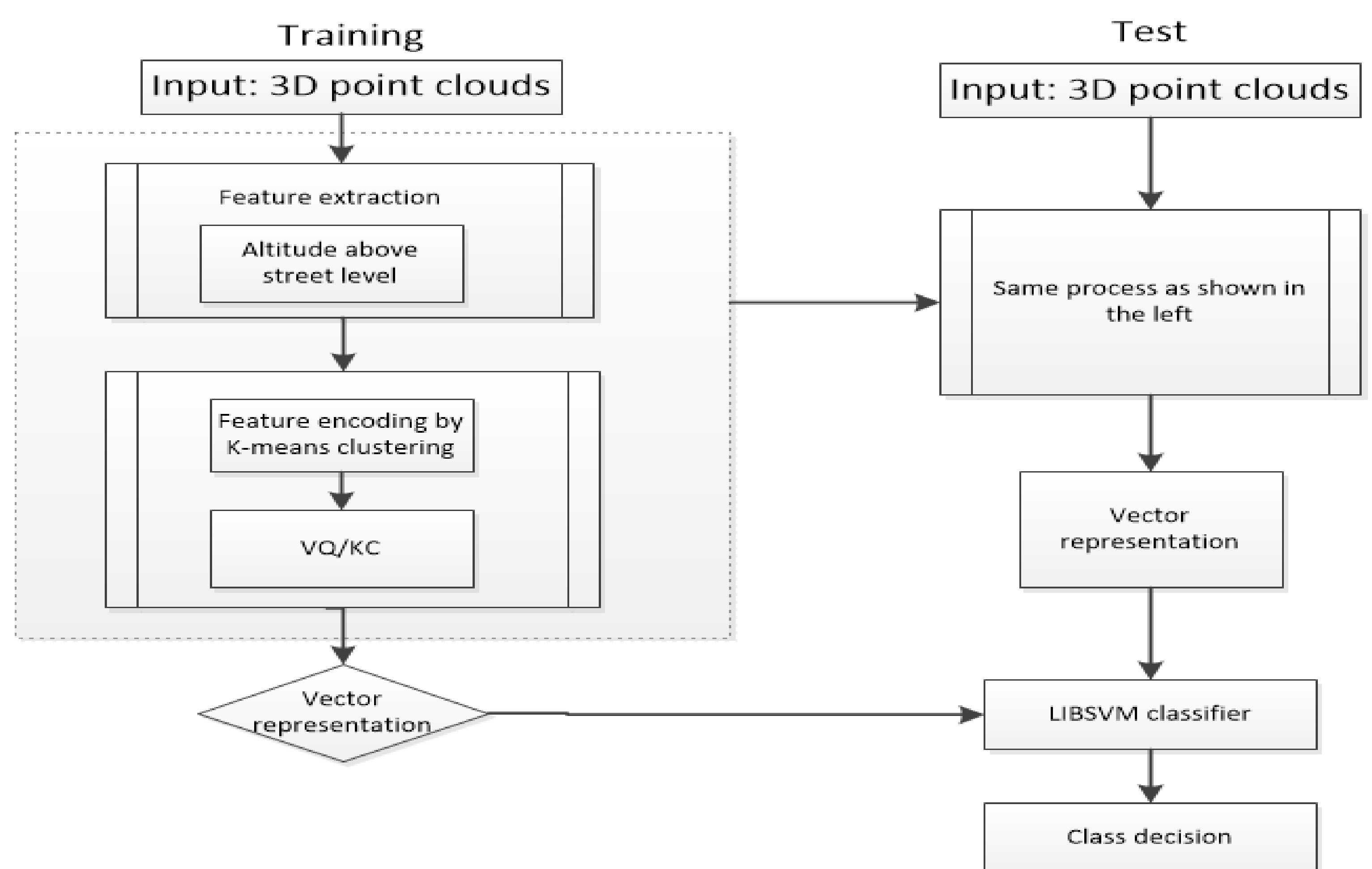
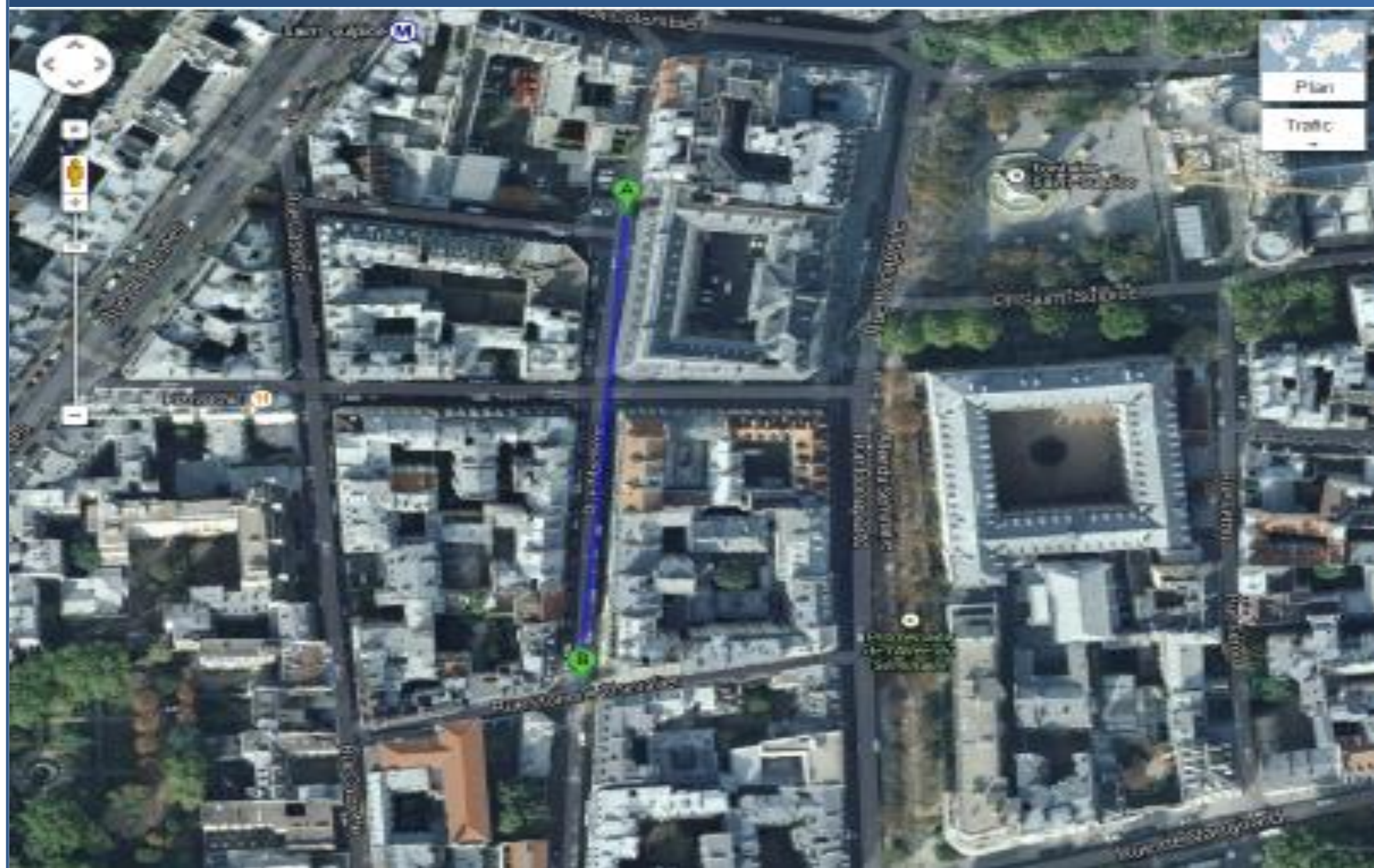
Dense point clouds may contain billions of points and hence **fast classification methods are required to extract meaningful information within a reasonable amount of time.**

Method

Flowchart

Histogram encoding [1]
Kernel encoding [2]

Data: Paris-rue-Madame dataset

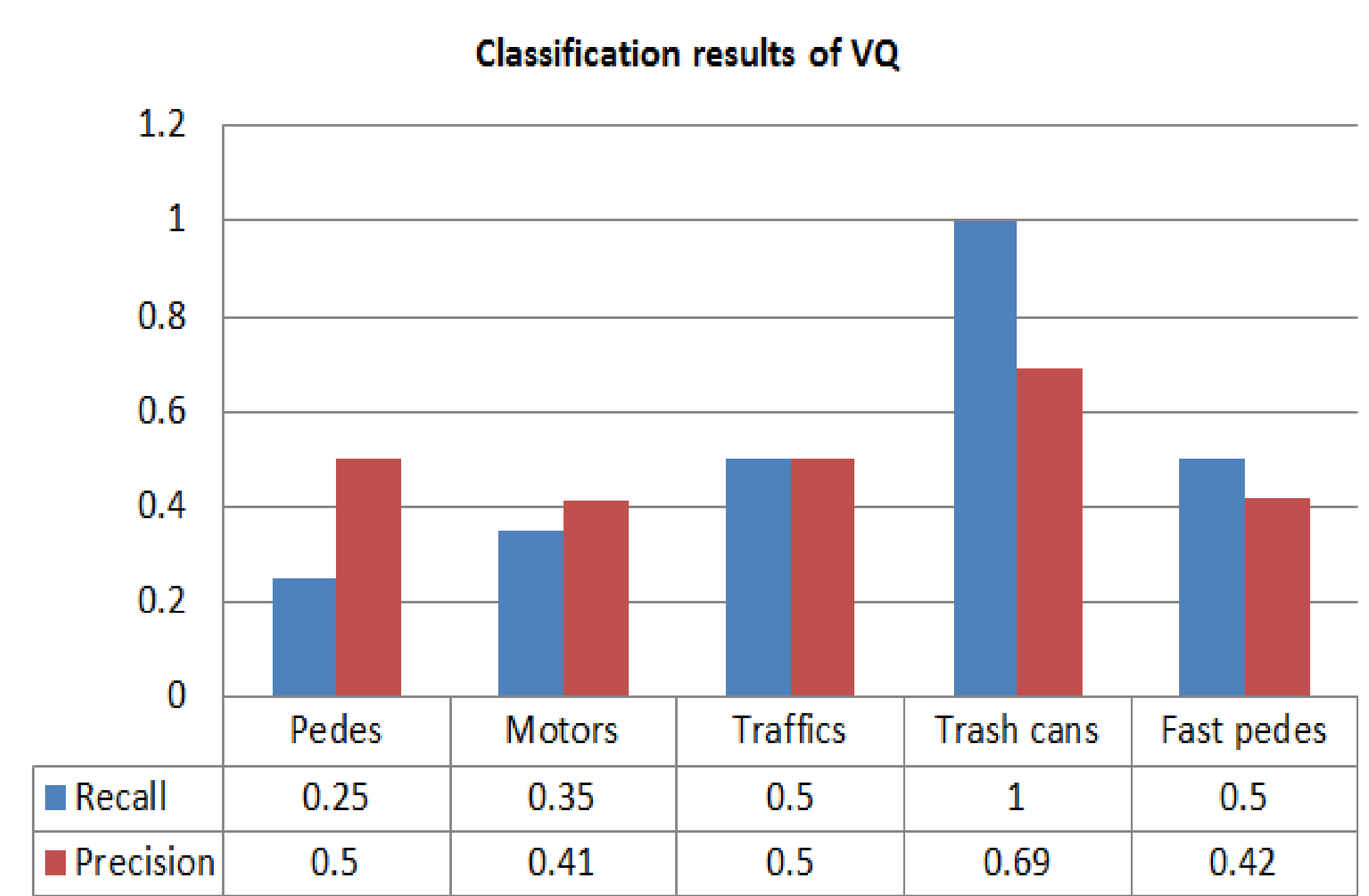
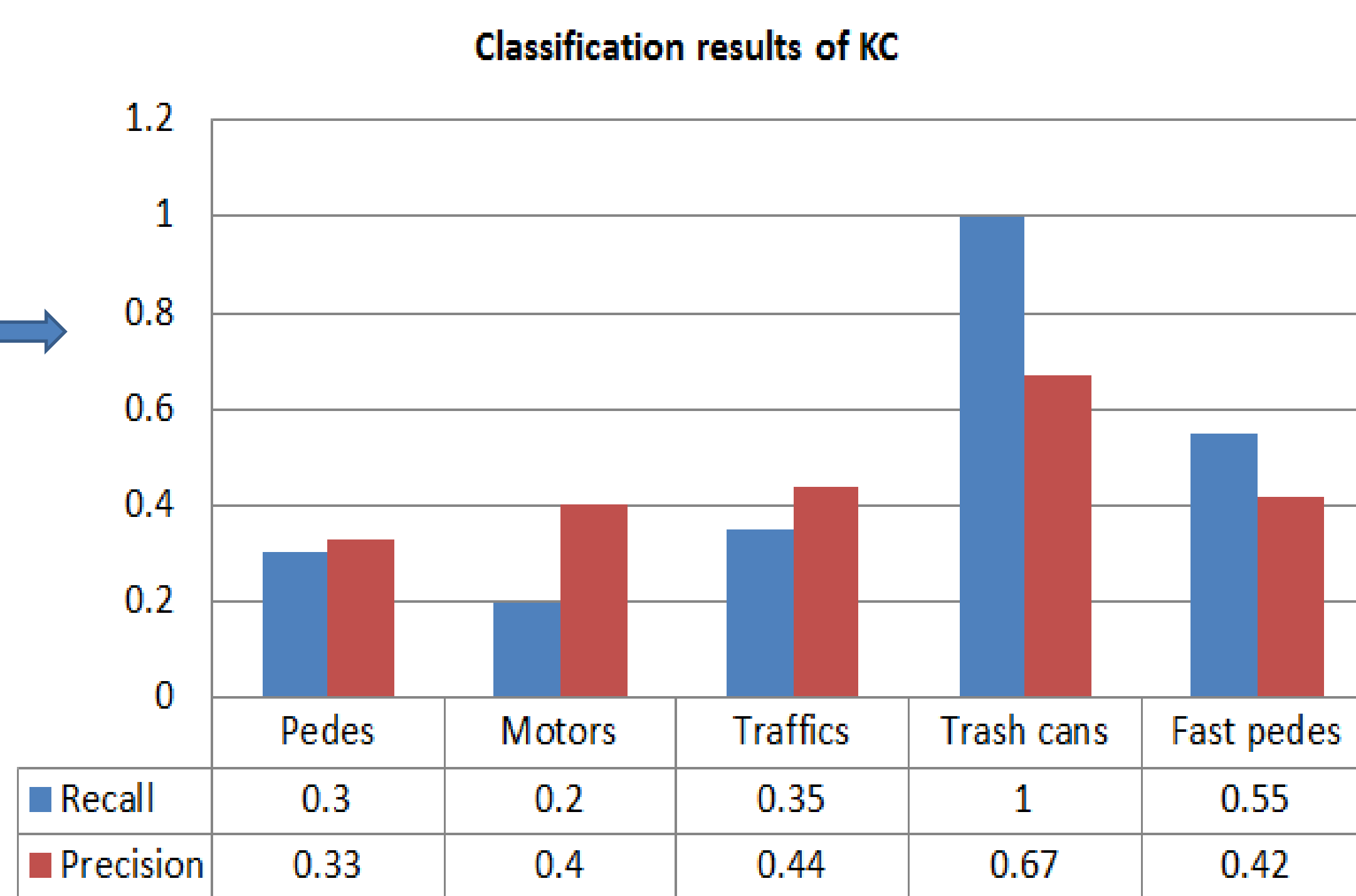


Result

* **Classification results**

* **Performance**

Method	VQ	KC
Overall accuracy	52%	42%
Kappa coefficient	43%	35%
Computation time (sec.)	2.9	1.9



Conclusion

- * The possible move of approaching from images to point clouds is feasible.
- * One single feature is not enough to arrive at a reliable classification.
- * Accuracy comes at the cost of increasing computational efforts.

Discussion

1. We should consider using different (derived) properties as features in method, e.g. relative height, local orientation.
2. It's considerable to use DBMS to manage large volumes of point cloud data and move classification functionality inside database for saving computation time.
3. Different types of classifiers are also worth testing.