Report on the implementation of squared-distance minimization algorithm

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Contents

1 Notation

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2 Paper reading

2.1 Calculation of the distance from a point to a B-spline

3 Implementation

The implementation by Yuri Pekelny is of great help. The implementation was achieved 2005.

4 Thoughts

By implementation the SDM algorithm, I think I could learn several things, including the acquaintance of optimization theory, some basic ideas about b-splines, and the rendezvous of matrix operations.

In the paper [WPL06]

5 References

References

[WPL06] Wenping Wang, Helmut Pottmann, and Yang Liu. Fitting b-spline curves to point clouds by curvature-based squared distance minimization. *ACM Transactions on Graphics*, 25(2):214–238, 2006.