

The Iterated Closest Points (ICP) for surface alignment

The Iterative Closest Point (ICP) is an algorithm employed to minimize the difference between two clouds of points. ICP is often used to reconstruct 3D surfaces from different scans, to localize robots and achieve optimal path planning, to register bone models, etc. The algorithm is very simple and is commonly used in real-time. It iteratively revises the transformation (translation, rotation, affine) needed to minimize the distance between the points of two raw scans. Non rigid models can be also added to handle real world non rigid motion.

