*	Manifold learning methods
	(non-linear dim reduction)
	I Any space ie; locally evolidean.
	Ex: Earth is a manifold: locally flat
	globally sphere
	the to five a second of the se
	Manifold learning performs dimensionality reduction
θę	by representing data as low-dimensional manifolds
	embedded in a higher dim space.
	to the second of
	-> Apart from swiss roll, it can be s-curve dataset,
	Spiral dataset, MNIST, faces, speech dataset.
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*	ISOMAP (Isometric feature mapping)
	4 Is a non-linear dimensionality reduction method
	based on the spectral theory which tries to preserve
	the geodesic distances in the lower dimension.
	devise a matrix
	EUCLIDEAN CISC
	Geodesic distance
<u> </u>	How to compute geodesics without knowing the manifold?
	-Build an adjacency graph & approximate geodesic dist
	by shortest partie through the graph.



such for 1804AP:

such for 1804AP:

such 1: Build the adjacency graph over the points of the points

step 2: compute approximate geodes (cs: weight graph edges by inter-point distances & then apply

Dijkstra's all pairs shortest paths algo. Step 3: Take the top & evectors of gram matry

Step 1a: compute the distance matrix (pairwise exclision distances) from the data.

16: Keep only k nearest-neighbors for each point in the distance matrix

Step 2: weight graph edges by inter-point distances
and then apply Dijkstra's all-pairs shorter
paths algorithm.

Step 3; Take the top d evectors of the gram

Transformation space: non-linear

2914 values

Ex: hwitiple images of presidents.

Captured face orientation -> x-axis

Colour of image -> y-axis

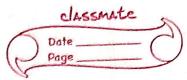
(Image darkness)

Point

2D space.

i 2914 dim space-)
20 subspa

non-linear distribution in subspl



	transformed points give much better the accuracy
	compared to points in original subspace.
	The state of the s
	Good transformation subspace -> explain highest
	variance.
1	highest accuracy.
-	carong dir's of evectors that help us get most
	relevant transformations.).
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	a very good method to note the variances in
	most images.
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