

10.1 What is Dimensionality Reduction?

Machine Learning 1: Foundations

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Recap

Last week, we started to look into **unsupervised learning**:

- ▶ Clustering

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This week:

- ▶ **Dimensionality Reduction**

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 - Autoencoders

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3 Non-linear Dimensionality Reduction

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Finally they performed a dimensionality reduction...

The result was striking!

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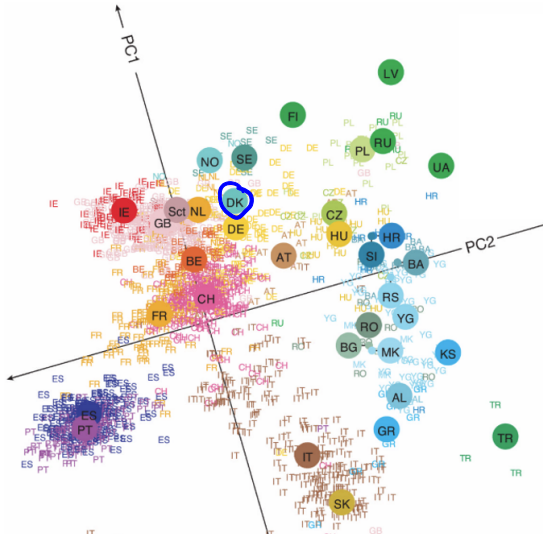
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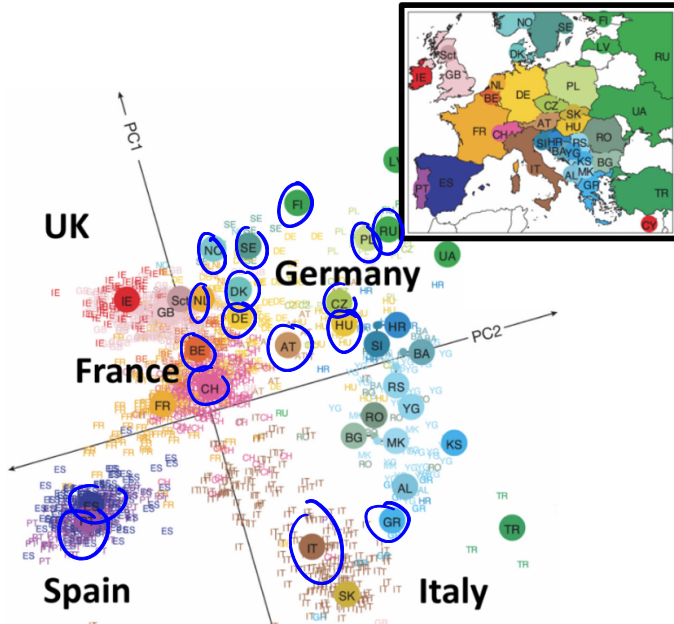
Why Dimensionality Reduction?

- ▶ Data can be visualized (in two or three dimensions)
- ▶ Less storage, faster to compute with
- ▶ Less dimensions \Rightarrow lower risk of overfitting

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The visualization from the previous slide was generated using a tool called **PCA**.