# Why is Dimensionality Reduction Important?

Principal reasons to consider dimensionality reduction techniques in your workflow:

- visualization
- remove multicolinearity
- remove redundant features
- deal with the curse of dimensionality
- identify structure for supervised learning
- high-dimensional data

***NOTE:*** We will be using some of the concepts like Principal Component Analysis (PCA), singular value decomposition (SVD) and eigenvalue decomposition throughout this module with the assumption that you have some fundamental knowledge. If you need a refresher on these concepts we refer you to the appropriate section 2.7-2.12 in the Deep-Learning textbook [1].

Deep-Learning book Chapter 2

scikit-learn matrix decomposition tutorial

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[1]: I Goodfellow, Y Bengio, and A Courville. *Deep Learning*. MIT Press, 2016.
URL: http://www.deeplearningbook.org.