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Principal component analysis: resources for an essential application of linear algebra.

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Summary: Principal Component Analysis (PCA) is a highly useful topic within an introductory Linear Algebra course, especially since it can be used to incorporate a number of applied projects. This method represents an essential application and extension of the Spectral Theorem and is commonly used within a variety of fields, including statistics, neuroscience, and image compression. We present a synopsis of PCA and include a number of examples that can be used within upper-level mathematics courses to engage undergraduate students while introducing them to one of the most widely used applications of linear algebra.

Classification: H65 K45 M55 M65 R45

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