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A multitude of knot invariants, including quantum invariants and their categorifications, have been introduced to aid with characterizing and classifying knots and their topological properties. Relations between knot invariants and their relative strengths at distinguishing knots are still mostly elusive. We use Principal Component Analysis (PCA), Ball Mapper, and machine learning to examine the structure of data consisting of various polynomial knot invariants and the relations between them. Although of different origins, these methods confirm and illuminate similar substructures in knot data. These approaches also enable comparison between numerical invariants of knots such as the signature and s-invariant via their distribution within the Alexander and Jones polynomial data. (Received August 15, 2020)