Using Moving Averages to Find Trends in Data

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This article introduces the notion of the moving averages in a set of data in which there are significant variations in the values from day to day, as a way to smooth out the data. The technique is widely used in medicine and business/finance, but it is not widely known among the general population. The article focuses on how to calculate and visualize moving averages, comparing moving averages based on the number of days used, and finding the best trend in both the original data and the associated moving averages from the usual families of functions—linear, exponential, power, quadratic, and cubic. Dynamic visualizations are used throughout to demonstrate how the concepts arise and how to improve student understanding of them.

Keywords: moving averages, fitting functions to data, dynamic visualizations

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