

Degree Estimation from Noisy Polynomial Data via Time-series Modelling

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Abstract: This lecture has particular relevance to data science (mathematics, computer science, and electrical engineering). It is based on refereed research results that have been published recently, i.e., over the last 12 months. It will present the correspondence between polynomial and time-series representations. Also, an accurate estimation of a polynomial degree is essential for better detection, estimation, and prediction. This will demonstrate how the degree of a polynomial can be estimated in a completely novel way and more successfully. The starting point is uniformly sampled polynomial data, when the degree and the coefficients of the polynomial are unknown. The first part deals with noise-free data, while the second part deals with noisy data.

Keywords data modelling, time-series representations of polynomials, polynomial degree estimation, noisy polynomial data, regression

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