

# Best approximations in different settings

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In this presentation I will discuss how to best approximate a function using polynomials. The answer to the question of what is “best” is different depending on who you ask. To some it may be the approximation that can be explicitly computed in finite time, but here we will search for the actual best approximation.

This is an old subject which goes back to Pafnuty Chebyshev (also transliterated as Tchebichef, Tchebychev, Tchebycheff, Tschebyshev, Tschebyschef, Tschebyscheff, Čebyčev, Čebyšev, Chebysheff, Chebychov, Chebyshov) who was interested in the subject from the point of view of mechanical systems. I will focus on classical results such as the Alternation theorem and the Remez algorithm.