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Estimation of the Derivative of the Convex Function by Means of its Uniform Approximation

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Abstract: Suppose given the uniform approximation to the unknown convex function on a bounded interval. Starting from it the objective is to estimate the derivative of the unknown convex function. We propose the method of estimation that can be applied to evaluate optimal hedging strategies for the American contingent claims provided that the value function of the claim is convex in the state variable.



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