
Computational Finance using Algorithmic Differentiation

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May 8th 2019

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Introduction

Here the goal of the presentation is going to be stated.

Introduction

Manual Differentiation

Image of someone derivating. Time image.

Symbolic Differentiation

Output differentiation from SymPy. Plot demonstrating the problem called expression swell.

Finite Differentiation

Central Difference. Plot demonstrating round-off errors.

Algorithmic Differentiation

Code chunk with function. Derivative next to it.

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Definition.

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Definition.

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Advantages and drawbacks

Based on the definitions of tangent and adjoint, explain the advantages and disadvantages of AD.

General Application

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General Application

Machine learning. Optimization problems. Finances.

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Cite books and papers.