

# Seminário OGTC

Optimization, Graph Theory and Combinatorics

18 de maio de 2022 (15h00–16h00)  
(Sala Sousa Pinto)

## Automatic Adjoint Differentiation for special functions involving expectations

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### Abstract

We explain how to compute gradients of functions of the form  $G = (1/2) \sum_{i=1}^m (E y_i - C_i)^2$ , which often appear in the calibration of stochastic models, using Automatic Adjoint Differentiation. We expand on the work of [DL] and give faster and easier to implement approaches. We also provide an implementation of our methods and apply the technique to calibrate European options.

[DL] D. Goloubentsev and E. Lakshtanov. Remarks on Automatic Adjoint Differentiation for gradient descent and models calibration, 2019 (<https://arxiv.org/pdf/1901.04200.pdf>)

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