M.S. in Computational Finance

Learning Outcomes

Students will be able to:

- Implement the univariate GARCH (1,1) to model a stock time series.
- Measure average return and average vulnerability from a financial historical time series.
- Write code to price an European Call Option using Black-Scholes model and variations.
- Invert covariance matrix for a portfolio of stock and determine the Markowitz portfolio, i.e. the portfolio comprised of the same assets as the original one which maximizes return/risk.
- Write code for solving one dimensional optimization problems.