

Options Tool

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Abstract

Option is a financial instrument of the derivative market. In particular, it is an agreement between buyers and sellers for a transaction on an asset (e.g. stock) in a specific future day and at a specific pre-agreed price for a non-returnable premium. The main difference with other derivatives is that the buyer of the Option has the right (option) and not the obligation to exercise the derivative, to buy or sell the underlying asset, while the seller has to follow the buyer's choice. Financial traders are very interested in them for various purposes, including hedging risk and speculating. There are plenty of models and strategies focused on Options. So, it is essential for traders to have a software package that can do automatically the mathematical calculations and display graphics that can help them to take their financial decisions.

The Options Tool focuses on the three main parts of Options trading: Options pricing, Options strategies and put call parity theorem. The program uses up-to-date equity Options data from the web page of the Financial Times (www.ft.com), giving the opportunity to the user to choose among various Options. The aim of this project is to combine the most fundamental parts of options trading in a friendly environment for the trader.

The Options Tool is a JAVA-based application. The user has to run the application, to choose his inputs and, as a result of simple button clicks, outputs are displayed, according to the choices made. The outputs could be calculations, graphs or tables. The program is separated in three main parts, each one having a different aim, so that the user can go in depth for each Option he is interested in.

My achievement is quite near the expectations. The program calculates correctly essential Options models in a friendly and easy to use environment. It can price Options using different models, calculate the Greeks, detect arbitrage and use different strategies for various purposes. Also, the graphics are displayed successfully.