Pricing Options and Derivative Securities: An Engineering Approach

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option and stock prices to justify such a homogeneity property. This homogeneity property is crucial in finance, as a derivative is a contract that derives its value from the performance of an underlying asset. Some of the more common derivative securities include forwards, futures, options, swaps, and variations of these instruments. Hence, specifically the market price risk of the underlying asset can be controlled in almost every situation. Essays on derivatives pricing in financial engineering - HKUST.

2) pricing these products and evaluate the strategies. We start with the analysis of derivative securities such as options, forwards, and futures. The model, which is the basis of modern derivative theory and financial engineering in practice, Pricing and Hedging Derivative Securities in Incomplete Markets: An Approach.

A Nonparametric Approach to Pricing and Hedging Derivative Securities: Basic Concepts: Underlying Asset Prices, Futures, Options and Other Derivatives, Interest Rates and Bonds. Pricing Financial Instruments In this approach, the discount factor at time to is $111Z(t, in)$. Black-Scholes (1973) pioneered the approach to pricing derivative securities. If the terminal price is $S_T$, the Black-Scholes model gives the price of a European call option as $C = S_0 e^{-rT} N(d_1) - Ke^{-rT} N(d_2)$, where $d_1 = \frac{\ln(S_0/K) + (r + \sigma^2/2)T}{\sigma \sqrt{T}}$ and $d_2 = d_1 - \sigma \sqrt{T}$.
