

A tutorial introduction to quantitative finance: Option pricing and hedging

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3:30-4:30 pm

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4-178 EECS Bldg.

ABSTRACT: In this talk I will give an easy-paced introduction to quantitative finance, specifically the pricing of options and hedging strategies. After beginning with the so-called binomial model, I will present the Black-Scholes formula and the Black-Scholes PDE. Then I will give my views on the burning question “What went wrong?”, If time permits, I will discuss some alternate models for financial markets that go beyond the Black-Scholes model of geometric Brownian motion, and present some open problems

BIOGRAPHY: Dr. Mathukumalli Vidyasagar was born in Guntur, Andhra Pradesh on 29 September 1947. He received the B.S., M.S., and Ph.D. degrees, all in Electrical Engineering, from the University of Wisconsin, in 1965, 1967, and 1969, respectively. Between 1969 and 1989, he worked as a Professor of Electrical Engineering at various universities in the USA and Canada. In 1989 he returned to India as the Director of the newly-created Centre for Artificial Intelligence and Robotics (CAIR). In that capacity he built up CAIR into a leading research laboratory consisting of about 40 scientists working on various cutting-edge areas such as aircraft control, robotics, neural networks, and image processing.

In 2000 he joined Tata Consultancy Services (TCS), India’s largest IT firm, as an Executive Vice President in charge of Advanced Technology. In this capacity he created the Advanced Technology Centre (ATC), which currently consists of about 60 engineers and scientists working on e-security, advanced encryption methods, and bioinformatics. Recently he joined the University of Texas at Dallas as Cecil & Ida Green Professor. His current research interests are computational biology and mathematical finance.

He is the author or coauthor of nine books. He has received several honours in recognition of his research activities including the Distinguished Service Citation from his alma mater, the University of Wisconsin at Madison. He is a Fellow of IEEE as well as the Indian Academy of Sciences; the Indian National Science Academy, the Indian National Academy of Engineering and the Third World Academy of Sciences. He was awarded the Hendrik W. Bode Lecture Prize in 2000.

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