

# SUSHMANTH KAKULLA

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## EDUCATION

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- 09/22 - 12/23 **NEW YORK UNIVERSITY** New York, NY  
**The Courant Institute of Mathematical Sciences**  
**M.S. in Mathematics in Finance**
  - *Coursework:* stochastic calculus, machine learning, Black Scholes, Monte Carlo simulation, CAPM
- 06/18 - 03/20 **INDIAN INSTITUTE OF MANAGEMENT AHMEDABAD** Ahmedabad, India  
**M.B.A.**
  - *Coursework:* stochastic calculus, data analysis, algorithmic trading, option pricing, blockchain
- 07/12 - 05/16 **INDIAN INSTITUTE OF TECHNOLOGY BOMBAY** Mumbai, India  
**B.Tech in Mechanical Engineering and Minor in Electrical Engineering**
  - *Coursework:* calculus, linear algebra, computer programming

## EXPERIENCE

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- 07/20 - 05/22 **FINIQ CONSULTING INDIA PVT. LTD.** Pune, India  
**AVP - Derivatives Platform Consultant (Excel VBA, C#, SQL)**
  - Designed and implemented accumulator, decumulator pricer with back-solve functionality and Greeks calculations
  - Developed Monte Carlo (MC) pricing scripts for equity structured investment products; implemented pricer functionality on platform to showcase indicative prices on screen
  - Led team to create optimum underlying basket size calculator using Excel VBA; formulated recommendation to investors for higher yields
  - Implemented payoff scripts that OCBC Bank and RHB Bank currently use for pricing; developed system interfaces using C# and SQL, which remain live at RHB
  - Managed 15 people to develop and deliver customized products for client, JAR Capital
- 08/16 - 06/18 **VIRTUSA CONSULTING SERVICES PVT. LTD.** Hyderabad, India  
**Engineer – Technology (Java, J2EE technologies, and GWT)**
  - Rolled out 20 deliverables to production successfully in \$2.5M transformation project
  - Received highest rating (10/10) as well as direct appreciation from client in assigned project
  - Attained 25% reduction in weekly bug reporting rate by devising and formulating regression suite
  - Recognized as subject matter expert in development and implementation using Java and GWT
  - Resolved 100+ critical client issues in production and reduced count by 70% in less than 1 year

## PROJECTS

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- 09/23 - 12/23 **BLU ANALYTICS** New York, NY  
**Pricing American Options with Reinforcement Learning (Python)**
  - Replicated American option using time-dependent barrier options, with MC and analytical formulas
  - Implemented temporal difference backpropagation (TDBP) learning to train and optimize a deep neural network for sequential decision-making tasks to be applied to option pricing
  - Attained 99% accuracy by optimizing exponential barrier approximation to fit Snell envelope
- 01/23 - 05/23 **NYU COURANT** New York, NY  
**Latent Semantic Analysis (LSA) with Machine Learning (Python)**
  - Created LSA-based recommender by vectorizing Twitter financial news; used SVD to derive term frequency and importance; attained 90% accuracy with KNN classifier**Regression Trees and Feature Map Regression (Python)**
  - Performed Gaussian kernel feature map regression, random forest and gradient boosting on subsampled image; filled in missing data (20%) with SL; achieved lowest MSE with random forest

## COMPUTATIONAL SKILLS / OTHER

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**Programming Languages:** Java, Python, C++, SQL, VBA, MATLAB, R

**Languages:** English (fluent), Hindi (fluent), Telugu (native), German (basic)

**Certification:** Programming for Everybody (Python), Neural Networks and Deep Learning from Coursera