[redacted] Das , Ph.D.

DERIVATIVE PRICING PORTFOLIO OPTIMIZATION | MATHEMATICAL FINANCE

Flat No. 3[redacted] Maharashatra, 4[redacted]7

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I have a Ph.D. in Mathematical Finance and I'm looking for a suitable job in Credit Risk, Market Risk, Option Pricing, Modeling, Investment Banking, etc. .

Areas of Expertise

Strong research professional with a Ph.D degree focused in Mathematical Finance and Stochastic Process from IIS[redacted] Skilled in **Probability Theory, Stochastic Processes, Statistics, Python, Portfolio Optimization, Numerical Analysis, Simulations and Quantitative Finance**.

Academic Qualifications

Ph.D in Mathematics — [redacted] **India**

IIS[redacted] — *Aug. 2013 - PRESENT*

- *Thesis Title*: Portfolio Optimization & Option Pricing in a Component-wise Semi-Markov Modulated Market
- *Advisor*: Dr. A[redacted] G[redacted]
- In this thesis we have studied a portfolio optimization and an option pricing problem in a market with regimes. We have also developed a statistical technique to test the appropriateness of regime switching models. We have experimented our method on Indian stock indices.

M.Sc in Applied Mathematics — [redacted] **India**

VIDY [redacted] UNIVERSITY — *Aug. 2010 - July 2012*

- Probability & Statistics
- Linear algebra
- Ordinary Differential Equations (ODE) & Partial Differential Equations (PDE)
- Stochastic processes, Markov & semi-Markov models
- Numerical analysis, Algorithms, C, C++
- Complex Analysis, Real Analysis
- Classical & Fluid Mechanics
- Abstract algebra & Discrete Mathematics

B.Sc in Mathematics — [redacted] **India**

VIDY [redacted] UNIVERSITY — *Aug. 2007 - July 2010*

- *Major*: Mathematics
- *Minors*: Physics, Chemistry

Honors & Awards

2012	**Junior Research Fellowship**,	*CSIR-UGC NET*
2013	**All India Rank 30**,	*GATE*

Skills

Finance	Derivatives, Market and Credit Risk Analysis, Modeling
Mathematics	Time Series Analysis, Statistics, Probability Theory, Stochastic Calculus, Data Science, ODE's and PDE's, Simulations
Programming	Python, Cython, R, MATLAB, C, Sage
Documentation	LaTeX, MS Word, MS Excel, MS Office
Languages	English, Hindi, Bengali

Publications

Risk sensitive portfolio optimization in a jump diffusion model with regimes **2018**

SIAM J. Control Optim

- *Authors*: [redacted] Das, A[redacted] G[redacted] & N[redacted] R[redacted]
- We have solved an optimal investment problem using an utility function based on risk tolerance of an investor in a regime switching market. We find an expression for optimal strategy.

Pricing derivatives in a regime switching market with time inhomogeneous volatility **2018**

Stochastic Analysis & Applications

- *Authors*: [redacted] Das, A[redacted] G[redacted] & [redacted] P[redacted]
- This paper studies a European type basket option pricing in a regime switching market. We find an expression for a locally risk minimizing hedging strategy. We also calculate the measure of risk.

Testing of Binary Regime Switching Models using Squeeze Durations **2018**

Preprint

- *Authors*: [redacted] Das & A[redacted] G[redacted]
- In this paper, we have proposed a statistical technique to test the regime switching models.

Workshop & Conferences

- Attended @In-house symposium on Finance 2015, IIS[redacted] May 2015.
- Attended @Workshop on SPDE and LPS, IIS[redacted], Dec 2015.
- Attended @Workshop on Applied Probability, IIT [redacted], Jan 2016.
- Paper presentation @Short Term Workshop on Financial Engineering, IIT [redacted], May 2016.
- Presented a poster @Conference on Statistical Methods in Finance, Chennai [redacted] Institute, Dec 2016.
- Presented a poster @Inter IIS[redacted] Mathematics Meet, IIS[redacted], May 2017.
- Attended @Workshop on Numerical Techniques for PDEs, VN[redacted], July 2017.
- Presented a poster @Workshop on Mathematical finance, IIS[redacted], July 2018.

Declaration

I, [redacted] Das, hereby declare that the above informations provided by me are true to the best of my knowledge and belief.