

CURRICULUM VITAE

Farshid Mehrdoust

PERSONAL INFORMATION

Associate Professor, Department of Computer Science and Applied Mathematics, Faculty of Mathematical Sciences, University of Guilan, Namjoo Street, Rasht, Iran
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Date of Birth: 21 September, 1977
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AFFILIATIONS

- Assistant Prof., Department of Applied Mathematics, University of Guilan, Sep 2011- Dec 2015.
- Associate Prof., Department of Applied Mathematics, University of Guilan, Dec 2015-present.

RESEARCH INTERESTS

- Mathematical Finance, Computational Finance,
- Stochastic Process
- Stochastic Algorithms for Scientific Computations
- Monte Carlo methods and algorithms for Linear Algebra, and Performance Computing Encompassing Stochastic Modeling

EDUCATION

- **University of Guilan**, Rasht, Iran, Ph.D. in Applied Mathematics and Computer Sciences
- **Sharif University of Technology**, Tehran, Iran, M.Sc. in Computer Science and Applied Mathematics
- **University of Guilan**, Rasht, Iran, B.Sc. in Computer Science and Applied Mathematics

HONORS

- **Ranked 5th** in the entrance examination for graduate studies in Applied Mathematics, Iran, 1999.
- **Outstanding researcher** of the Faculty of Mathematical Sciences, University of Guilan, 2013.
- **Outstanding researcher** of the Faculty of Mathematical Sciences, University of Guilan, 2018.
- **Outstanding researcher** of the Faculty of Mathematical Sciences, University of Guilan, 2019.

PROFESSIONAL EXPERIENCES

- Teaching, University of Guilan, Fall 2010–present.

Some Courses: Mathematical Modeling for Finance, Advanced Stochastic Processes, Advanced Computer Simulation, Numerical

Analysis, Advanced Statistical Methods, Compiler, Automata, Advanced Programming, Data Structure

SKILLS

- Proficient in C#, Java, C++, Pascal, MATLAB, Maple, SPSS, Python; SPSS Clementine Software.
- Familiar with HTML, Network (LAN), Hardware.

LANGUAGES

- Persian- Native
- English-Fluent
- Arabic- Basic

EXECUTIVE ACTIVIETS

- Head of the Entrepreneurship Center, University of Guilan, September 2012- September 2014.
- Head of the e-Learning Center of University of Guilan, Since 2014- present.
- Head of the Information & Communication Center of University of Guilan, Since 2016-present.

PUBLICATIONS (Selected Papers)

1-Forward price and fitting of electricity Nord Pool market under regime-switching two-factor model. **Mathematics and Financial Economics**, 2021.

2- Calibration of the double Heston model and an analytical formula in pricing American put option, **Journal of Computational and Applied Mathematics**, 2021.

3- A generalized antithetic variates Monte-Carlo simulation method for pricing of Asian option in a Markov regime-switching model, **Mathematics and Computers in Simulation**, 2020.

4- CEV model equipped with long memory, **Journal of Computational and Applied Mathematics**, 2020.

5-On the calibration of fractional two-factor stochastic volatility model with non-Lipschitz diffusions, **communication in statistics-Simulation and computation**, 2020.

6-Pricing multi-asset American option with stochastic correlation coefficient under variance Gamma asset price dynamic, **Annals of Financial Economics**, 2020.

7-Bid and Ask spreads for the cap and floor contracts under the Liouville fractional Vasicek model, **Applied Economics Studies**,, 2020.

8- American Option Pricing under the Markov Regime-Switching Heston Model, **Mathematical Reports**, 2020.

9- European option pricing under multifactor uncertain volatility model, **Soft Computing**, 2020.

10- A short memory version of the Vasicek model and evaluating European options on zero-coupon bonds, **Journal of Computational and Applied Mathematics**, 2020.

11- An uncertain exponential Ornstein-Uhlenbeck interest rate model with uncertain CIR volatility, **Bulletin of the Iranian Mathematical Society**, 2020.

12- A mixed fractional Vasicek model and pricing Bermuda option on zero-coupon bonds, **Journal of the Indian Academy of Sciences, SADHANA**, 2020.

13- Long memory version of stochastic volatility jump-diffusion model with stochastic intensity, **Applied Economics Studies**, 2020.

14-Pricing S&P500 barrier put option of American type under Heston-CIR model with regime switching, **Journal of Financial Engineering**, 2019.

15-An efficient variance reduction-based simulation algorithm for pricing arithmetic Asian options, **Annals of Financial Economics**, 2019.

16-American option pricing under double Heston stochastic volatility model: simulation and strong convergence analysis, **Journal of statistical computation and simulation**, 2019.

17-On the existence and uniqueness of the solution to the double Heston model equation and valuing lookback option, **Journal of Computational and Applied Mathematics**, 2019.

18-Pricing multi-asset American option under Heston-CIR diffusion model with jumps, **Communications in Statistics–Simulation and computation**, 2019.

19-Pricing multi-asset American options under Heston's stochastic volatility model, **Journal of Financial Engineering**, 2018.

20-A fractional version of the Cox-Ingersoll-Ross interest rate model and pricing double barrier option with Hurst index $H \in (2/3, 1)$, **Communications in Statistics – Theory and Methods**, 2018.

21-Mixed fractional Heston model and the pricing of American options, **Journal of Computational and Applied Mathematics**, 2018.

22- Pricing European options under fractional Black-Scholes model with a weak payoff function, **Computational Economics**, 2017.

23- LSM algorithm approach to pricing multiple assets American options under Heston-Hull-White model, **Journal of Operational Research in Its Applications**, 2017.

24-Valuation of European Option under Uncertain Volatility Model, **Soft Computing**, 2017.

25-A fractional version of the Heston model with Hurst parameter $H \in (1/2, 1)$, **Dynamic Systems and Application**, 2017.

26-Pricing American put option on zero-coupon bond under fractional CIR model with transaction cost, **Communications in Statistics - Simulation and Computation**, 2017.

27-Bond pricing under mixed generalized CIR model with mixed Wishart volatility process, **Journal of Computational and Applied Mathematics**, 2017.

28-Modeling asset price under two-factor Heston model with jumps, **International Journal of Applied and Computational Mathematics**, 2017.

29-Markov Chain Monte Carlo Model, **2nd Edition, Encyclopedia of Social Network Analysis and Mining**, Springer, 2016.

30-Block-pulse operational matrix method for solving fractional Black-Scholes equation, **Journal of Economic Studies**, 2016.

31- LSM algorithm for pricing American option under Heston-Hull-White's stochastic volatility model, **Computational Economics**, 2016.

32- Pricing arithmetic Asian option under two-factor stochastic volatility model with jumps, **Journal of Statistical Computation and Simulation**, 2015.

33-Efficient Monte Carlo option pricing under CEV model, **Communications in Statistics - Simulation and Computation**, 2015.

34- A new hybrid Monte Carlo simulation for Asian options pricing, **Journal of Statistical Computation and Simulation**, 2015.

35-On approximate-analytical solution of generalized Black-Scholes equation, **Sci. Bull., Series**, 2015.

36-On analytical solution of the Black-Scholes equation by the first integral method, **Sci. Bull., Series**, 2014.

37-A randomized algorithm for estimating the condition number of matrices, **Mathematical Reports**, 2014.

38-Markov Chain Monte Carlo Model, **Encyclopedia of Social Network Analysis and Mining, ESNAM Project, Springer, 2014.**

M.Sc. & Ph. D. SUPERVISED

1-Option pricing under mean reverting with stochastic correlation, University of Guilan, 2019

2- On double barrier option under regime switching, University of Guilan, 2019

3-Option pricing in an incomplete stochastic volatility model, University of Guilan, 2019

4- Fractional stochastic models in financial models, University of Guilan, 2018

5-Option pricing under the double exponential jump-diffusion Heston-CIR model, University of Guilan, 2018

6-On the Heston model with Hull-white stochastic volatility model, University of Guilan, 2018

7-Long range dependence and fractional Brownian motion, University of Guilan, 2017

8-Option Pricing in uncertainty financial markets, University of Guilan, 2017

9- Multi-asset American put options pricing, University of Guilan, 2017

10- Option Pricing in uncertainty financial markets, University of Guilan, 2017

11-Some results on CEV model, University of Guilan, 2017

12-Some results on regime switching jump-diffusion models, University of Guilan, 2017

13- American multi-asset option pricing, University of Guilan, 2016

- 14- Jump-diffusion model with stochastic interest rate, University of guilan, 2016
- 15- Multi-factor stochastic volatility models, University of guilan, 2016
- 16- Option pricing under mean reverting process, University of Guilan, 2015
- 17- Option pricing and regime-switching model, University of Guilan, 2015
- 18-Some results on multiple stochastic volatility models, University of Guilan, 2016
- 19-Option pricing under mean reverting process, University of Guilan, 2015
- 20-Option pricing and regime-switching model, University of Guilan, 2015
- 21-Some results on American option under Heston model with stochastic interest rate, University of Guilan, 2015.
- 22- Jump process and its application in mathematical finance, University of Guilan, 2014
- 23- A Fast algorithm for Bermudan option pricing, University of Guilan, 2014
- 24-A fast support vector machine algorithm and its application in image processing, University of Guilan, 2014
- 25-Some results on option pricing in Heston model, University of Guilan, 2013.
- 26- Option pricing and hedging under a stochastic volatility Levy process model, University of Guilan, 2013
- 27- Fast and accurate pricing of barrier options under Levy processes, University of Guilan, 2013