UNIVERSITÀ DEGLI STUDI DI MILANO

TO MAGNIFICO RETTORE OF UNIVERSITA' DEGLI STUDI DI MILANO   **ID CODE 5933**

I the undersigned asks to participate in the public selection, for qualifications and examinations, for the awarding of a type B fellowship at **Dipartimento di** Direzione Trattamenti Economici e Lavoro Autonomo.

Scientist- in – charge: **Mrs Anna Tavano**

[Davood Ahmadian]

CURRICULUM VITAE

PERSONAL INFORMATION

Surname	**Ahmadian**
Name	**Davood**

PRESENT OCCUPATION

Appointment	Structure
-	-

EDUCATION AND TRAINING

Degree	Course of studies	University	year of achievement of the degree
Degree			
Specialization			
PhD	Applied Mathematics	IUST	2013
Master	Applied Mathematics	IUST	2008
Degree of medical specialization	-	-	-
Degree of European specialization	-	-	-
Other			

REGISTRATION IN PROFESSIONAL ASSOCIATIONS

Date of registration	Association	City

FOREIGN LANGUAGES

Languages	level of knowledge
English	Excellent

AWARDS, ACKNOWLEDGEMENTS, SCHOLARSHIPS

Year	Description of award
September 2018	Sabbatical research under the supervision of Professor Luca Vincenzo Ballestra Department of Statistical Sciences, Department of Statistical Sciences, Alma Mater Studiorum University of Bologna, Via delle Belle Arti 41, 40126 Bologna, Italy.
September 2019	Sabbatical research under the supervision of Professor Luca Vincenzo Ballestra Department of Statistical Sciences, Department of Statistical Sciences, Alma Mater Studiorum University of Bologna, Via delle Belle Arti 41, 40126 Bologna, Italy.
May 2019	Workshop on "Introduction to Computational Finance: Applications in Option Pricing", Department of Statistical Sciences, Alma Mater Studiorum University of Bologna, Via delle Belle Arti 41, 40126 Bologna, Italy.
September 2022	Sabbatical research under the supervision of Professor Luca Vincenzo Ballestra Department of Statistical Sciences, September 2022, Alma Mater Studiorum University of Bologna, Via delle Belle Arti 41, 40126 Bologna, Italy.

TRAINING OR RESEARCH ACTIVITY

description of activity   ??????

PROJECT ACTIVITY

Year	Project
2015	Forecasting the Stock Exchange Index of Tehran by Using Neural Network, Markov Chain and Behavior Finance, Tehran Stock Exchange, Tehran, Iran.
2022	Ruin and Default Probability in Insurance Companies and Banks, Call for International Reserach Proposals: TABRIZU-300 Progr

PATENTS

Patent
-
-

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Università degli Studi di Milano – Direzione Trattamenti Economici e Lavoro Autonomo
Ufficio Contratti di formazione e Ricerca
Via Sant'Antonio 12 - 20122 Milano, Italia
assegni.ricerca@unimi.it DTELA_M_CVAssegniENG_rev. 00 del 02/09/2021

CONGRESSES AND SEMINARS

Date 18-20 July 2023,	Title An efficient Monte Carlo variance reduction method for valuation of geometric Asian option under the variance gamma process,	Place 8th FINACT-IRAN International on Financial and Actuarial Mathematics, Kharazmi University, Tehran-Iran.
11-12 May 2022	Diagonally Drift Balanced Stochastic Runge–Kutta Methods of Second-Order for Stochastic Differential System of Equations	7th Seminar of Mathematics and Humanities (Financial Mathematic), 11-12 May 2022, Allameh Tabataba'i University, Tehran, Iran.
February 1-4, 2020,	Pricing Arithmatic Asian option using the control variate thechnique,	The 6th FINACT-IRAN National Conference and 4th Workshop on Financial and Actuarial Mathematics, School of Mathematics, IPM, Tehran, Iran
August 27-30, 2019,	A Very Efficient Approach for Pricing Geometric Asian Rainbow Options described by the mixed fractional Brownian motion	8th International Eurasian Conference on Mathematical Sciences and Applications (IECMSA-2019), Baku, Azerbaijan.
17-19 July 2018,	A closed form series solution for nonlinear Black- Scholes equation, 14th seminar on Differential Equations	Dynamical Systems and Applications (DEDSA), Institute for Advanced Studies in Basic Sciences, Zanjan-Iran.
), 9-10 May 2018,	Mean square convergence of split step θ Milstein method for stochastic delay differential equations, 5 th Seminar of Mathematics and Humanities Mathematical Finance	(Femath5 Department of Mathematics and Computer Sciences at Allameh Tabataba'i University (ATU), Tehran- Iran.
22-25 December 2018,	Skew Laplace normal Copula Functions with application in Insurance, The 5 th FINACT-IRAN National Conference on Financial and Actuarial Mathematics,	Khatam University, Tehran-Ira
11-12 March 2017,	A Highly Accurate Numerical Method with Application to Finance: Survival Probability Model,	The 9th edition of International Finance Conference, IFC9, Paris-France
7 December 2017	Exponential mean-square stability of two classes of theta Milstein methods for stochastic delay differential equations	, AIP Conference Proceedings 1910 (1), 060015,
3-7 July 2017,	High Order Finite Element Method In Insurance Mathematics, International Conference on Applied Analysis and Mathematical Modelling, Gelisim	University, (ICAAMM2017), Istanbul-Turkey
20-21 July 2016,	Stability analysis of two-classes od theta Milstein schemes for stochastic differential delay equations,	The 6th seminar on numerical analysis and its application, Maragheh-Iran.
20-21 July	Superconvergence of Finite Element	The 6th seminar on numerical analysis and its

2016,	Method in Computing Survival Probability Based on Stochastic Differential Equation,	application, Maragheh-Iran.
27–29 May 2015,	Superconvergence of the finite element method and Richardson extrapolation scheme with application to finance,	12th Seminar on Differential Equations and Dynamical Systems, University of Tabriz, Tabriz, Iran.
April 24-25, 2013	Evaluation of Finite Element Method to price discrete double barrier option in a CEV model with Jump	3 th Conference Mathematics and Humanities Sciences, Allameh University, Tehran-Iran.
January 30-31 2013	Pricing American Options by the Finite Element Method,	3 th Conference on Financial Mathematics & Applications Semnan University, Semnan, Iran.
August 27-30, 2012	Superconvergence of a finite element approximation to the solution of double discrete barrier option,	43th Annual Iranian Mathematics Conference, University of Tabriz, Tabriz-Iran.
February 16-18, 2011	Radial Base Function Method with application to Finance: American Put Option under Jump Diffusion,	2 th Seminar of Financial Mathematics and Social Network, Institute for Advanced Studies in Basic Sciences, Zanjan-Iran
September 12-15, 2010	Homotopy Analysis Method for S olving the Eigenvalues of Shrodinger Equation,	41th Annual Iranian Mathematics Conference, Urmia University, Urmia-Iran

PUBLICATIONS

Books
A Monte-Carlo Approach for Pricing Arithmetic Asian Rainbow Options under the Mixed Fractional Brownian Motion, Chaos, Solitons & Fractals, March 2022, Accepted.
N. Parvini, D. Ahmadian, A. Fazlzadeh, Forecasting Bitcoin returns with long short-term memory networks and wavelet decomposition: A comparison of several market determinants, Applied Soft Computing, March 2022, Accepted.
D. Ahmadian, A. Ebrahimi, K. Ivaz, M. Milev, An investigation on the existence and uniqueness analysis of the optimal exercise boundary of American put option, Filomat, Vol 35, No 4 (2021).
O. Farkhondeh Rouz, D. Ahmadian, Mean-square stability of a constructed Third-order stochastic Runge–Kutta schemes for general stochastic differential equations, Computational Methods for Differential Equations, May. 2021, In Press
D. Ahmadian, L. V. Ballestra, The Finite Element Method: A High-Performing Approach for Computing the Probability of Ruin and Solving Other Ruin-Related Problems, Mathematical Methods in the Applied Sciences, Vol. 44, Nov. 2021.
M. Shahmoradi, D. Ahmadian, M. Ranjbar, Mean-square stability of 1.5 strong convergence orders of diagonally drift Runge-Kutta methods for a class of stochastic differential equations, Computational and Applied Mathematics, Vol. 40, April 2021

D. Ahmadian, L. V. Ballestra, N. Karimi, An Extremely Efficient Numerical Method for Pricing Options in the Black-Scholes Model with Jumpss, Mathematical Methods in the Applied Sciences, Vol. 44, Sep. 2020

A. Safdari, D. Ahmadian, R. J. Jahromi, An approximation scheme for option pricing under two-state continuous CAPM, Computational Economics, Vol. 57, April 2021.

O. Farkhondeh Rouz, D. Ahmadian, Exponential mean-square stability of numerical solutions for stochastic delay integrodifferential equations with Poisson jump, Journal of Inequalities and Applications, Vol. 186, Jul. 2020.

A. Rathinasamy, D. Ahmadian, P. Naira, Second-order balanced stochastic Runge-Kutta methods with multi-dimensional studies, Journal of Computational and Applied Mathematics, Vol. 377, Oct. 2020.

D. Ahmadian, L. V. Ballestra, Pricing geometric Asian rainbow options under the mixed fractional Brownian motion, Physica A: Statistical Mechanics and its Applications, Vol. 555, Oct. 2020.

N. Karimi S. Kazem, D. Ahmadian, H. Adibi L. V. Ballestra, On a generalized Gaussian radial basis function: Analysis and applications, Engineering Analysis with Boundary Elements, Vol. 112, Mar. 2020.

D. Ahmadian, O. Farkhondeh Rouz, K. Ivaz, A. Safdari, Robust numerical algorithm to the European option with illiquid markets, Applied Mathematics and Computation, Vol. 366, Feb. 2020

D. Ahmadian, O. Farkhondeh Rouz, Boundedness and Convergence Analysis of Stochastic Differential Equations with Hurst Brownian Motion, Bulletin of Paranas Mathematical Society Vol. 38, Feb. 2020

D. Ahmadian, O. Farkhondeh Rouz, L.V. Ballestra, Stability analysis of split-step-Milstein method for a class of n-dimensional stochastic differential equations, Applied Mathematics and Computation, Vol. 348, May 2019.

O. Farkhondeh Rouz, D. Ahmadian, Stability of two classes of improved backward Euler methods for stochastic delay differential equations of neutral type, Computational Methods for Differential Equations Vol. 5, Aug. 2017.

O. Farkhondeh Rouz, D. Ahmadian, A. Jodaree Akbarfam, And M. Milev, A Note on the Almost Sure Exponential Stability of the Milstein Method for Stochastic Delay Differential Equations with Jumps, International Journal of Pure and Applied Mathematics, Vol. 116, Jan. 2017.

O. Farkhondeh Rouz, D. Ahmadian, Analysis on Mean-Square and Almost Sure Exponential Stability of Numerical Method for Stochastic Differential Equations with Constant Delay, Journal of Applied Mathematics and Statistics, Vol. 56, Oct. 2017.

. R. Kalantari, S. Shahmorad, D. Ahmadian, The Stability Analysis of Predictor-Corrector Method in Solving American Option Pricing Model, Computational Economics Vol. 47, Jan. 2015.

D. Ahmadian, L.V. Ballestra, A Numerical Method to Price Discrete Double Barrier Options under a CEV Model with Jump Diffusion, International Journal of Computer Mathematics Vol. 92, Nov. 2014.

A. Golbabai, L.V. Ballestra, D. Ahmadian, Superconvergence of the finite element solutions of the Black–Scholes equation, Finance Research Letters, Vol. 10, Mar. 2013.

A. Golbabai, L.V. Ballestra, D. Ahmadian, A Highly Accurate Finite Element Method to Price Discrete Double Barrier Options, Computational Economics, Vol. 10, Aug. 2013.

A. Golbabai, D. Ahmadian, M. Milev, Radial basis functions with application to finance: American put option under jump diffusion, Mathematical and Computer Modelling, Vol. 93, Feb. 2012.

Articles in reviews
O. Farkhondeh Rouz, S. Shahmorad and D. Ahmadian, Double weakly singular kernels in stochastic Volterra integral equations with application to the rough Heston model, Under Revision in Applied Mathematics and Computation
Vaz'he Rahimi, Davood Ahmadiana, Luca Vincenzo Ballestra, Construction and Mean-Square Stability Analysis of a New Family of Stochastic Runge-Kutta Methods, Under Revision in Applied Mathematics and Computation
Vaz'he Rahimi, Davood Ahmadian, Stability Analysis of Stochastic Lyapunov Functions: Applications to Memristor Neural Networks, under review in IEEE Transactions on Neural Networks and Learning Systems.
M. Robaei, M. Lakestani, D. Ahmadian: Gradient Sparse Dictionary Learning for Continuous Infinite-Dimensional Signals under review in IEEE Transactions on Pattern Analysis and Machine Intelligence.
A. Jalili, H. Sabri, and D. Ahmadian, Random matrix theory in financial data, under review in Physical Review E
Navid Parvini, Davood Ahmadian, Luca Vincenzo Ballestra, Feature Selection and Hyperparameters Optimization Employing a Hybrid Model Based on Genetic Algorithm and Artificial Neural Network: Forecasting Dividend Payout Ratio, under review in Computational Economics
D Ahmadian, M. R. Chalak Qazani, N. Parvini, S. Pedrammehr, L. V. Ballestra, Forecasting Volatility using Hybrid Machine Learning Method: Sequencing Block, Multi-Layer Perceptron, and Bayesian Optimization, under review in Journal of Forecasting.
M. Roshanzamir, R. Alizadehsani, M.i Roshanzamir, A. Shoeibi, \textbf{D.~Ahmadian}, J. M. Gorriz, A. Khosravi, S. Nahavandi, What happens in Face during a facial expression? Using data mining techniques to analyze facial expression motion vectors, Submitted to Expert Systems, Dec. 2021.
M. Roshanzamir, M. T. Darbandy, \textbf{D.~Ahmadian}, M.i Roshanzamir, A. Shoeibi, J. M. Gorriz, R. Alizadehsani, A. Khosravi, S. Nahavandi, Automatic facial expression recognition in an image sequence using linear-chain conditional random field, Submitted to Artificial Intelligence, Jan. 2022.

Congress proceedings
[title, structure, place, year]
[title, structure, place, year]
[title, structure, place, year]

OTHER INFORMATION

Sabbatical research under the supervision of professor Wolgfgang Breymann and Dr. Erich Walter Farkas in the Zurich University of Applied Sciences, April-2017 ZHAW School of Engineering, Switzerland.

Sabbatical research under the supervision of Professor Luca Vincenzo Ballestra Department of Statistical Sciences, Amount 800 e, September 2018, Alma Mater Studiorum University of Bologna, Via delle Belle Arti 41, 40126 Bologna, Italy.
Sabbatical research under the supervision of Professor Luca Vincenzo Ballestra Department of Statistical Sciences, Amount 900 e, September 2019, Alma Mater Studiorum University of Bologna, Via delle Belle Arti 41, 40126 Bologna, Italy.
orkshop on "Introduction to Computational Finance: Applications in Option Pricing", Amount 1000 e, May 2019, Department of Statistical Sciences, Alma Mater Studiorum University of Bologna, Via delle Belle Arti 41, 40126 Bologna, Italy.
Sabbatical research under the supervision of Professor Luca Vincenzo Ballestra Department of Statistical Sciences, Amount 1560 e, September 2022, Alma Mater Studiorum University of Bologna, Via delle Belle Arti 41, 40126 Bologna, Italy

Declarations given in the present curriculum must be considered released according to art. 46 and 47 of DPR n. 445/2000.

The present curriculum does not contain confidential and legal information according to art. 4, paragraph 1, points d) and e) of D.Lgs. 30.06.2003 n. 196.

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