

# Ali Habibnia

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## Current appointment

*Assistant Professor of Big Data Economics, Department of Economics, Virginia Tech*  
*Assistant Professor, Computational Modeling & Data Analytics, College of Science, Virginia Tech*

## Past Appointments

PH.D. researcher, LSE Systemic Risk Centre/ LSE Time Series and Statistical Learning Group  
Scientific Chair of Big Data Economics, Tehran Institute of Advanced Studies

## Areas of research interest

Big Data Econometrics • Statistical Machine (Deep) Learning • Forecasting  
Nonlinear Econometric Analysis • Computational Finance • Network Analysis

## Education

- 2017 PH.D. in Statistics, London School of Economics
- Thesis title: Essays in High-dimensional Nonlinear Time Series Analysis
  - Committee: Matteo Barigozzi, Angelos Dassios, Esfandiar Maasoumi, Qiwei Yao
- 2012 M.S. in Quantitative Finance, Cass Business School
- Thesis title: Volatility Forecasting with Genetic Algorithm - Support Vector Regression
- 2010 M.S. in Economics, University of Tehran
- Thesis title: Financial Forecasting: Neuro-Fuzzy models Vs Smooth Transition Regressions
- 2007 B.S. in Economics, University of Tehran

## Grants, honors & awards

2015	Highly commended research prize, LSE Research Festival
2014	Doctoral Fellowship, ESRC & LSE Systemic Risk Centre
2012	PhD Scholarship, LSE Department of Statistics
2010	Recognized as a Scientific Elite, Iran National Elites Foundation
2007	Recognized as an Exceptional Talent, Iran National Organization of Exceptional Talents

## Publications

### WORKING PAPERS

"Forecasting in Big Data Environments: an Adaptable and Automated Shrinkage Estimation of Neural Networks (AAShNet)" with *Esfandiar Maasoumi*. Under review at Journal of Econometrics

"Nonlinear Forecasting Using a Large Number of Predictors: A Deep Learning Approach", *JMP*

- *35th International Symposium on Forecasting (ISF)*, Riverside, USA, 2015.
- *8th International Conference on Computational and Financial Econometrics*, Pisa, Italy, 2014.
- *Nonlinear time series analysis thresholding and beyond: In honour of Howell Tong*, LSE, 2014.
- *37th Conference in Probability and Statistics*, Nottingham, UK, 2014.

"Econometric Modeling of Systemic Risk: Going Beyond Pairwise Comparison and Allowing for Nonlinearity", with *J. Etesami & N. Kiyavash*

- *SRC Discussion Paper No 66*, March 2017.

"Past, Present and Future of Testing for Nonlinearity in Time Series"

## Teaching

2019	ECON 4984: Big Data Economics, <i>Virginia Tech</i>
2019	C7: Machine Learning and Data Classifiers, <i>Virginia Tech</i>
2018	Linear Algebra & Probability for Machine Learning in Python, <i>Tehran Stock Exchange</i>
2018	Time Series Forecasting with Python, <i>Tehran Stock Exchange</i>
2017	Algorithmic Trading in Python, <i>Tehran Stock Exchange</i>
2017	Deep Learning & Machine Learning Applied to Trading, <i>Tehran Stock Exchange</i>
2014/15	Factor Models in Time Series with MATLAB, <i>Methods Summer Programme, LSE</i>
2014/15	Time Series and Forecasting (ST304), Applied Regression with R (ST211), <i>LSE</i>
2015	Econometrics of Monetary Policy (postgraduate), <i>Khatam University</i>
2012/13	Elementary Statistical Theory (ST102), Quantitative Methods (ST107), <i>LSE</i>
2013	Global Business Environment (MBA Course), <i>LBS</i>
2012/15	Machine Learning Applied to Finance (graduate), <i>University of Tehran</i>
2008-2016	Technical Analysis, <i>More than 20 times in various universities and financial institutions</i>
2008-2010	Econometrics (graduate), Macroeconomics I & II (undergraduate), <i>University of Tehran</i> .

## Invited talks

- 2018 Introduction and Overview of Applications of Artificial Intelligence and Machine Learning in Scientific Research, *Virginia Tech*
- 2018 Financial Time Series Analysis: Deep Learning Approach, *MathWorks Computational Finance*
- 2018 Text Mining & Sentiment Analysis in Trading, *Tehran Stock Exchange TSE*
- 2016 Machine Learning for Economic and Financial Forecasting, *The Technical Analyst*
- 2013 Foreign Exchange Rate Risk Measurement and Management, *IDB*
- 2012 Time Series Forecasting using Wavelet Kernel Support Vector Machine, *LSE*

## Dissertation Supervision

Mahsa Rajabi (PH.D. 2017), Electrical & Control Engineering, K.N.Toosi University of Technology  
Raheleh Shahrokhi (PH.D. 2017), Electrical Engineering, K.N.Toosi University of Technology  
Emad Habibzadeh (M.S. 2016), Financial engineering, Khatam University  
Fateme Ghasempour (M.S. 2016), Risk Management, Khatam University

## Service to the profession

- 2017 Director (1 year - FT), *Dataism Limited, UK*
- 2017 Consultant for Macro Planning (4 months - PT), *Ministry of Economic Affairs and Finance, Iran*
- 2013 Quantitative Research Analyst (3 months - PT), *Pantheon Ventures, UK*
- 2008-2011 Head of Equity market & Research Department (3 years - FT), *Rahbord Investment Co, Iran*
- 2009-2010 Derivatives Trading Strategist (1 year - Advisory contract), *Wise Enterprises FZCO, UAE*
- 2009-2010 Stock Market Analyst Intern (1 year - PT), *Nikan Capital, Iran*

## IT Skills

*Languages:* Python, R, MATLAB, C, Spark, Hadoop, PHP, HTML.

*Econometric Packages:* EViews, G@RCH, OX Metrics, Stata, JMulTi.

*Financial Packages:* Bloomberg Terminal, AmiBroker, MetaTrader, MetaStock.