Anastasia BOROVYKH

Education

10/2015 - now **PhD Student Applied Mathematics (Marie-Curie Fellowship), University of Bologna**
- Topic: 'Analytical and computational improvements on risk assessment', supervised by Prof. Andrea Pascucci and Prof. Cornelis W. Oosterlee
- Project: 'WAKEUPCALL - 'Mathematical and computational issues in finance and insurance in the wake of the crisis', a Marie-Curie Industrial Doctorates and Horizon2020 project

09/2013 - 09/2014 **Master Quantitative Finance (Honours Track, 84ECTS), VU University Amsterdam**
- Thesis: 'Implications of collateral agreements for derivative pricing', *Grade: 8.5/10*
- *Average Master: 8/10*

09/2010 - 07/2013 **Bachelor Applied Mathematics, Delft University of Technology**
- Minor: Finance, *Average Minor: 8.5/10*
- Thesis: 'The pricing of Asian options on baskets of futures', *Grade: 8.5/10*
- A*verage Bachelor: 7.5/10*

Work experience

01/2017 - now **Research intern in NIER Ingegneria, Bologna, Italy**
- Topic: 'Analytical and numerical methods for computing systemic risk in interconnected networks of banks'

09/2016 - 11/2016 **Visiting PhD student, Delft University of Technology & CWI**
- Topic: 'Convolutional neural networks applied to time series forecasting', supervised by Prof. Cornelis W. Oosterlee and Sander M. Bohte

04/2015 - 09/2015 **Analyst - Data Science & Analytics, Accenture**
- Large Finance Transformation project at leading global Oil & Gas company; responsibilities included implementing changes in the financial consolidation system used for reporting, analytics and data modelling; performing data cleansing, conversion and validation; assisting and working with the client

12/2014 - 02/2015 **Intern - M&A, NIBC Bank**
- Performing financial modelling and valuation (e.g. multiples analysis, DCF analysis, operating model); conducting sector research, analysing companies, preparing pitch books and company profiles in several sectors (incl. Utilities, Retail)

01/2013 - 07/2013 **Intern, CWI Amsterdam** (16hrs/week)
- Researched, developed and implemented various efficient models for pricing Asian options on baskets of futures

09/2012 - 07/2013 **Teaching assistant, Delft University of Technology** (5hrs/week)
- Assisted second and third year students (group of 100) in numerical mathematics and partial differential equations

Publications

Peer-reviewed journals
- A. Borovykh, C.W. Oosterlee, A. Pascucci, *Pricing Bermudan options under local Lévy models with default*, Journal of Mathematical Analysis and Applications 450 (2017) 929–953
- A. Borovykh, C.W. Oosterlee, A. Pascucci, *Efficient XVA computation under local Lévy models*, Forthcoming in SIAM Journal on Financial Mathematics (2017)
- A. Borovykh, C.W. Oosterlee, S. Bohte, *Dilated convolutional neural networks for time series forecasting,* Forthcoming in Journal of Computational Finance (2017)

Conference proceedings
- A. Borovykh, S. Bohte, C.W. Oosterlee, *Conditional time series forecasting with convolutional neural networks*, Lecture Notes in Computer Science, Springer (2017) 729
- A. Borovykh, C.W. Oosterlee, A. Pascucci, *Bermudan option valuation under state-dependent models*, Proceedings in Mathematics and Statistics, Springer (2017) 128–138

In review
- A. Borovykh, A. Pascucci, S. La Rovere, *A mean-field model of interbank lending with self-exciting shocks*, Preprint (2017)

Talks and poster presentations

Invited talks

May 2016 SIAM Student Computational Finance Day 2016, Delft University of Technology

June 2016 Second International Congress on Actuarial Science and Quantitative Finance, Cartagena, Colombia

Contributed talks

January 2017 XVIII Workshop on Quantitative Finance, Milan, Italy

September 2017 2nd International Conference on Computational Finance, Lisbon, Portugal

December 2017 Quantitative Methods in Finance Conference (QMF) 2017, Sydney, Australia

Poster presentations
September 2017 International Conference on Artificial Neural Networks 2017, Alghero, Sardinia, Italy

Grants and Awards

PhD funded by the Marie-Curie, Horizon2020 and European Industrial Doctorates fellowship (2015-2018)

Computer Skills

Python (libraries include Theano, SciPy, Tensorflow), Matlab/Octave, CUDA , C#, Maple/Mathematica, R

Languages

Fluent: Dutch, English (TOEFL IBT 2012, score 115), Russian
Basic: Italian, French, German