DENIS KHRYASHCHEV

phone: 646-651-5459

email: dkhryashchev@gradcenter.cuny.edu, denis.khryashchev@nyu.edu, denis.khryashchev@gmail.com

Second year Ph.D. student at the Graduate Center of the City University of New York majoring in Computer Science with a particular focus on time series analysis and forecasting. Previously earned master's degree after graduating from the Center of Urban Science and Progress, New York University majoring in applied data science and urban informatics. Overall, my research experience is mostly focused on applying machine learning techniques to urban data sets of the city agencies of New York City. Contributed to 10 articles overall.

Research interests: developing new algorithms for time series forecasting and analysis, and big data processing.

RESEARCH EXPERIENCE

Graduate Research Assistant, *Graduate Center, City University of New York*	Aug 2016 – current
• developing new algorithms for forecasting and analysis of transportation demand time series for Yellow Taxi, Uber, and CitiBike	
• developing Python + Spark algorithms and modules for processing audit files of log-on events in an enterprise computer network	
Graduate Research Assistant, *Center for Urban Science and Progress, New York University*	Oct 2015 – May 2016
• editing and creating Python modules for parsing .pcap files, extracting data from GSM signaling exchange, looking for repeating patterns	

SELECTED PUBLICATIONS

Predicting Taxi Demand at High Spatial Resolution: Approaching the Limit of Predictability
K. Zhao, D. Khryashchev, J. Freire, C. Silva, and H. Vo
In proceedings of IEEE International Conference on Big Data (Big Data), 2016

Improving the quality of underexposed images (Russian), D. Khryashchev, *Engineering Journal of Don* 2013

On a method of edge detection on digital images (Russian)
D. Khryashchev, *Vestnik of Astrakhan State Technical University. Series: Management, Computer Science, and Informatics*; pp. 181-187, 2010

About a method of low-pass filtration of sonar images (Russian)
D. Khryashchev, *Vestnik of Astrakhan State Technical University. Series: Marine Engineering, and Technologies*; pp. 63-68, 2010

WORK IN PROGRESS

Predicting Taxi and Uber Demand in Cities
K. Zhao, D. Khryashchev, H. Vo

Forecasting short-term demand for transportation with polynomial decomposition of time series
D. Khryashchev, K. Zhao, H. Vo

TECHNICAL SKILLS

- 2 years of experience in applied data science (Python numpy, pandas, scipy, scikit-learn, geopandas)
- 2 years of experience with big data with Hadoop and PySpark
- Strong knowledge of computer science fundamentals: algorithms, data structures, complexity theory
- Strong knowledge of linear algebra and calculus, good knowledge of the probability theory
- Strong knowledge of Ericsson Switching equipment, including MSC/MSS, MGW, BSC, RNC, HLR
- Strong knowledge of GSM/ UMTS networks, signaling subsystem #7
- good knowledge of C++, PHP, SQL and HTML

WORK EXPERIENCE

PJSC VimpelCom (former OJSC VimpelCom), Astrakhan branch, Astrakhan, Russia

Head of the Network Switching Subsystem Department	Feb 2012 – Aug 2015
Senior Engineer, Network Switching Subsystem Department	Jan 2010 – Jan 2012
Engineer, Network Switching Subsystem Department	Oct 2008 – May 2010

EDUCATION

Ph.D. in Computer Science, *Graduate Center, City University of New York*   Sep 2016 – current

MS in Urban Informatics, *Center for Urban Science and Progress, New York University* Sep 2015 – Aug 2016
Thesis: Counting pedestrians with Computer Vision

MS in Computer Science, *Astrakhan State Technical University (Russia)*   Oct 2008 – Apr 2014
Thesis: Preprocessing and analysis of images captured in low-light conditions

Bachelor in Information Security, *Astrakhan State Technical University*   Sep 2003 – Jun 2008
Thesis: Development of software to monitor the integrity of OS Windows XP

HONORS AND AWARDS

Outstanding Student Award, *Center for Urban Science and Progress, New York University*	2016
Certificate of Recognition, *OJSC VimpelCom*	2011
Certificate of Recognition, *OJSC VimpelCom*	2009

SPOKEN LANGUGES

- Russian (native)
- English (fluent, TOEFL score 106 / 120, 2014)
- Spanish (basic)