VENIAMIN SMIRNOV

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EDUCATION AND QUALIFICATIONS

- PhD, Mathematics, Texas Tech University, 2017-present, (GPA: 3.96), graduation: 12/2021.
- MS, Mathematics, Texas Tech University, 2017-2019, (GPA: 3.95)
- BS, Mathematics, Stockton University, 2013-2016, (GPA: 3.94)

TECHNICAL SKILLS

- **Programming:** Python (Numpy, Pandas, Dask, Scipy, Plotly, Matplotlib, etc), SQL, Matlab, Maple, GNU Octave, HTML, LaTeX, algorithms development.
- **ML:** Pytorch, SKlearn, Keras.
- **Certificates:** Deep Neural Networks with Pytorch (IBM), Machine Learning with Python (IBM), Introduction to Computer Vision and Image Processing (IBM), Introduction to Deep Learning and Neural Networks with Keras (IBM), Machine Learning A-Z™: Hands-on Python & R in Data Science (Udemy, in progress), Deep Learning A-Z™: Hands-On Artificial Neural Networks (Udemy, in progress), SQL (Hackerrank).
  See more details at https://veniamin3253.github.io/Projects/

WORK EXPERIENCE

- **01/2021 - present:** Graduate Part-Time Instructor, Department of Mathematics and Statistics, Texas Tech University
  - Spring 2021 MATH1452 "Calculus II with Applications"
  - Fall 2021 MATH2450 "Calculus III with Applications"
- **09/2019 - 12/2020:** Research Assistant, Department of Mathematics and Statistics, Texas Tech University.
- **09/2017 - 09/2019:** Teaching Assistant, Department of Mathematics and Statistics, Texas Tech University. I taught the following classes:
  - Fall 2018 MATH1300 "Contemporary Math"
  - Spring 2019 MATH1300 "Contemporary Math"
  - Summer 2019 MATH4354 "Differential Equations II"
- **2015-2016:** Math tutor, Stockton University.
- **09/2014-01/2015:** Teaching Assistant, Stockton University.

RESEARCH EXPERIENCE/PROJECTS

Texas Tech University **Lubbock, TX**

12/2020-present

- Analysis of social media intelligence operations on the Twitter platform.

AVX Aircraft Company & PeopleTec & DoD & Texas Tech University **Lubbock, TX**

11/2019-12/2020

- Developed algorithms for data refinement, synchronization, and fusion of parametric and maintenance data for MH60 Black Hawk helicopters.

Texas Tech University **Lubbock, TX**

Summer 2019

- Reviewed different methods of threshold selection and studied the extreme events presented in 39 years of the US economy using different statistical approaches.
- This project led to 1 publication in Communications in Nonlinear Science and Numerical Simulation.

Texas Tech University **Lubbock, TX**

Fall 2018

- Studied predictability of market states and stock prices of individual companies by reconstructing a discrete model of S&P 500 phase space.
- This project led to 2 publications in Applied Mathematics and Nonlinear Sciences and Mathematical Methods in Modern Complexity Science: From Artificial Intelligence to Relativistic Chaotic Dynamics.

Texas Tech University **Lubbock, TX**

Summer 2018

- Proposed computationally feasible statistical algorithms for the automated assessment of isolation and integration of urban locations and neighborhoods.
- This project led to 2 publications in Journal of Vibration Testing and System Dynamics and The Many Facets of Complexity Science.

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AWARDS

- 2015 Stockton Board of Trustees Fellowship for Distinguished Students ($\$1,500$)
- 2018 Patrick Odell Scholarship ($\$1,000$)
- 2019 Hua Yu Memorial Scholarship ($\$1,000$)

- 2019 The Shelby Hildebrand Graduate Fellowship ($\$10,000$)
- 2020 James D. and Mary Hazlewood Graduate Fellowship ($\$3,000$)
- 2020 Ronald M. Anderson Scholarship ($\$1,000$)

PUBLICATIONS

- Volchenkov, D., **Smirnov, V.**, "The City of Lubbock is Running Away. Integration and Isolation Patterns in the Wandering City", Journal of Vibration Testing and System Dynamics, 3(2), 121-132 (2019)
- **Smirnov, V.**, Volchenkov, D., "Five Years of Phase Space Dynamics of the Standard & Poor's 500", Applied Mathematics and Nonlinear Sciences 4(1) (2019) 203–216
- **Smirnov, V.**, Ma, Zh., Volchenkov, D., "Extreme Events and Emergency Scales", Communications in Nonlinear Science and Numerical Simulation, 90 (2020)
- "An Unfair Coin of the Standard & Poor's 500", Dimitri Volchenkov, **Veniamin Smirnov**, Ch 2 in Mathematical Methods in Modern Complexity Science: From Artificial Intelligence to Relativistic Chaotic Dynamics. In Memory of Valentin Afraimovich (1945–2018) (Eds. J.A. Tenreiro Machado, D. Volchenkov) Springer Nonlinear Physical Science (to appear 2021)
- "Multi-scale Analysis of Urban Spatial Structures acquired from OpenStreetMap", Dimitri Volchenkov, **Veniamin Smirnov**, Ch 12, in The Many Facets of Complexity Science: In Memory of Valentin Afraimovich (1945–2018), (Ed. D. Volchenkov) HEP & Springer Nature (to appear 2021)
- "Extreme Events And Emergency Scales", **Veniamin Smirnov**, Zhuanzhuan Ma, And Dimitri Volchenkov, Ch 2 in Mathematical Methods in Modern Complexity Science: From Artificial Intelligence to Relativistic Chaotic Dynamics. In Memory of Valentin Afraimovich (1945–2018) (Eds. J.A. Tenreiro Machado, D. Volchenkov) Springer Nonlinear Physical Science (to appear 2021)