Vladyslav Oles

Email: vlad.oles@pm.me

github.com/vlad-oles

Phone: (509) 715-7017

A mathematician with a programming background and expertise in network science, discrete and computational geometry, and machine learning. Author of Python [Scikit-TDA module](#), and [MPI-based software](#) for Boolean network modeling. In ♥ with techno music and open science.

Skills

- *Fluent in* Python (NumPy/SciPy, Scikit-learn, Scikit-TDA, Pandas, Dask, Seaborn, Mpi4Py, NetworkX), R (dplyr, tidyr, ggplot2, igraph), SQL, and LaTeX
- *Familiar with* Julia, C/C++, MATLAB, TensorFlow, Spark, NoSQL, Slurm, and Grid Engine

Education

PhD in **Mathematics** at Washington State University   *Aug 2014 – Dec 2019*

- Designed and taught R-based course "Introduction to Data Analytics"
- Full responsibility for "Discrete Structures" and Python- and LaTeX-based "Mathematical Computing"

MS in **Applied Mathematics** at Kyiv Polytechnic Institute   *Sep 2007 – Jun 2009*

BS in **Applied Mathematics** at Kyiv Polytechnic Institute   *Sep 2003 – Jun 2007*

Publications

- Oles, V., Lemons, N., Panchenko, A. (2020). [Efficient estimation of a Gromov–Hausdorff distance between unweighted graphs](#).
- Oles, V., Kukushkin, A. (2020). [BoolSi: a tool for distributed simulations and analysis of Boolean networks](#). *Journal of Open Research Software, 8*(1)
- Oles, V., Koh, K. M. S., […] Krueger, J. M. (2020). Sleep- and time of day-linked RNA transcript expression in wild-type and IL1 receptor accessory protein null mice. *Journal of Applied Physiology*
- Oles, V., Panchenko, A., Smertenko, A. (2017). [Modeling hormonal control of cambium proliferation](#). *PloS one, 12*(2)
- Gubarev, V. F., Gummel, A. V., Kryshtal, A. A., Oles, V. Y. (2011). On the structural and parametric identification under the limited uncertainty and approximating models of multidimensional systems. *Journal of Automation and Information Sciences, 43*(6)

Experience

Post-doc at Oak Ridge National Laboratory   *Oct 2020 – present*

- Extracted patterns from 8.5TB of compressed HPC operational data using Dask and Pandas

Technical Assistant III at Washington State University   *Mar 2020 – Aug 2020*

- Analyzed 450 GB of geospatial data to detect climate anomalies using R and Slurm

Research Associate at Karatsoreos Lab   *Jun 2019 – Aug 2019*

- Developed statistical pipeline for analyzing treatment effects in small subject groups, and implemented it in R

Research Intern at Los Alamos National Lab   *Jun 2017 – Aug 2017*

- Developed dissimilarity measure for dynamic graphs and implemented it in Python to identify anomalies in 73 GB corporate LAN traffic dataset

Research Analyst at Flex Ltd.   *Aug 2014 – Jul 2019*

- Created a neural network for invoice classification using PyTorch
- Visualized 2 GB of company performance data for senior management using Pandas and Seaborn

Business Analyst at Flex Ltd.   *Jul 2013 – Jul 2014*

- Designed and led a series of 23 training sessions on software development and database concepts
- Transformed 10+ customer requirements into technical specifications for developers

Software Engineer at Flex Ltd.   *Mar 2007 – Jun 2013*

- Developed 20+ and customized 100+ 3GL/4GL applications for Baan ERP system
- Optimized Oracle SQL queries in 10+ Baan ERP applications for average 15x performance gain

Workshops

- *"Big data"* at The Data Incubator   *Nov 2018*
- *"Representations of high-dimensional data"* at Mathematical Studies Research Institute   *Jul 2018*
- *"Hierarchical multiscale methods using the Andersen–Parrinello–Rahman formulation of molecular dynamics"* at Okinawa Institute of Science and Technology   *Apr 2017*

Talks

- *Session on Combinatorial Approaches to Topological Structures* at Joint Math. Meetings   *Jan 2021*
- *Data Science and Image Analysis Conference of the PNW* at Washington State University   *Feb 2020*
- *Analysis Seminar* at Washington State University   *Nov 2018*
- *T Division Lightning Talks* at Los Alamos National Laboratory   *Aug 2017*
- *AMS Fall Western Sectional Meeting* at California State University   *Oct 2015*

Honors

- MITx Philosophy Award   *Sep 2020*
- Fellowship at The Data Incubator   *Nov 2018*
- Sidney G. Hacker Graduate Research Math. Scholarship at Washington State University   *Apr 2017*

Languages

- *Fluent in* English, Russian, and Ukrainian
- *Familiar with* French and Polish