VAIVA VASILIAUSKAITE
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EDUCATION

Oct'16-Jun'20 **Imperial College London**
PhD in Physics of Complex Systems
Title: Paths and Directed Acyclic Graphs. Supervisor: Dr. Tim S. Evans.
- Thesis topics: directed acyclic graphs, time-ordered networks, paths.
- I organised two internal social events for researchers at Imperial College working on topics related to complex networks: "Networks Networking" (funded by Complexity Group and Centre of Mathematics for Precision Healthcare) and "Advanced Topics on Networks" (funded by Complexity Group, Centre of Mathematics for Precision Healthcare, and Graduate School).
- I attended two summer schools on complex networks: Summer School on Network Clustering (Higher School of Economics, Moscow, Russia, 2017) and the Mediterranean School of Complex Networks (Salina, Sicily, 2017).

Sep'12-Jun'16 **University of Glasgow**
MSci in Theoretical Physics
Overall Grade: 1st Class
Master's Project: Bit-flip error in quantum Shor's algorithm. Supervisor: Prof. Stephen Barnett.
Bachelor's Project: Agent-based modelling of financial markets. Supervisor: Prof. David Ireland.
3rd year group project: Numerical and analytical models of electrostatic field in capacitors.
Core modules: Groups and Symmetries, Quantum Mechanics and Quantum Field Theory, Particle and Atom Physics, General Relativity.

WORK EXPERIENCE

July'20-Now **ETHZ** **Zürich**
Postdoctoral Researcher
- I am currently working as a postdoc in Computational Social Science group (COSS).
- I am working on SoBigData++: European Integrated Infrastructure for Social Mining and Big Data Analytics, funded under grant agreement H2020-EU.1.4.1.2, grant agreement ID: 871042.
- Research topics include: complexity and network analysis, explainable machine learning.
- Co-lecturer of "Data science in socio-techno-economic systems".

Jun'15-Sep'15 **JP Morgan** **London**
Summer intern
- A project management role in technology infrastructure, Data Management group.

Jun'14-Aug'14 **Barclays** **London**
Summer intern
- Cash Settlements and Payments Technology group (using Java and VBA).

Aug'13-Sep'13 **University of Glasgow** **Glasgow**
Summer intern
- Data analysis for designing space-based sensor network for mitigation of space weather in James Watt School of Engineering (using Matlab).

Jun'13-Aug'13 **Culham Centre for Fusion Energy** **Culham**
Summer intern
Data analysis project in Heating and Current Drive Physics Group (using IDL).

TEACHING

2020-now Lecturer of "Data science in socio-techno-economic systems" at ETH Zürich (co-lectured by Prof. D. Helbing and Dr. N. Antulov-Fantulin)
2020-now Supervision of PhD and Master's students at ETH Zürich.
2017-2019 Lab demonstrator for an undergraduate Physics course "Complexity and Networks" at Imperial College London (taught by Dr. T.S. Evans and Prof. K. Christensen).

PUBLICATIONS

2023 **V.V.***, C.I. Hausladen*. How do circadian rhythms and neural synchrony shape networked cooperation?. *Frontiers in Physics*, *11*, 160.
VV.*, N. Antulov-Fantulin*. Universality of neural dynamics on complex networks – *arXiv preprint arXiv: 2301.04900.*
P. Gheorghiade*, **V.V.***, et al. Entropology: an information-theoretic approach to understanding archaeological data (In preparation for Journal of Archaelogical Method and Theory, Volume 29, issue 3).
M. E. Akbiyik, M. Erkul, K. Kämpf, **V.V.**, & N. Antulov-Fantulin. Ask" who", not" what": Bitcoin volatility forecasting with twitter data. In *Proceedings of the Sixteenth ACM International Conference on Web Search and Data Mining* (pp. 688-696).

2022 V. Krishna, **V.V.**, & N. Antulov-Fantulin. Question routing via activity-weighted modularity-enhanced factorization. *Social Network Analysis and Mining*, *12*(1), 1-15.
V.V., T.S. Evans, & P. Expert. Cycle Analysis of Directed Acyclic Graphs. *Physica A: Statistical Mechanics and its Applications*: 127097.
V.V.*, N. Antulov-Fantulin*, & D. Helbing. On some fundamental challenges in monitoring epidemics. *Philosophical Transactions of the Royal Society A* 380.221: 20210117.
V.V., F. Lillo, & N. Antulov-Fantulin. Information dynamics of price and liquidity around the 2017 Bitcoin markets crash. *Chaos: An Interdisciplinary Journal of Nonlinear Science*, *32*(4), 043123.

2020 **V.V.**, F. Rosas. Understanding complexity via network science: a gentle introduction. DOI:10.47041/ECHO.2 *arXiv preprint arXiv:* 2004.14845.
T. S. Evans, L. Calmon, & **V.V.** The longest path in the Price model. *Scientific reports*, *10*(1), 1-9.
V.V., T.S. Evans. Making communities show respect for order. *Applied Network Science* 5.1: 1-24.

2019 **V.V.**, T.S. Evans. Social success of perfumes. *PloS one*, *14*(7), e0218664.

2018 **V.V.**, T.S. Evans. Diversity from topology of citation networks – *arXiv preprint arXiv*:*1802.06015.*

* joint first authorship

TALKS

2021 Entropology – Networks 2021, parallel session talk (Virtual).
2019 The longest path in Price model - NetSci 2019, parallel session talk (Burlington, Vermont, USA).
2019 Making communities show respect for order – NetSci 2019, parallel session talk (Burlington, Vermont, USA), NetSciX 2020, parallel session talk (Tokyo, Japan).
2018 Centrality and other orderings of nodes in DAGs – NetSci 2018, 5th Satellite on Quantifying Success, talk (Paris, France).
2018 Network of perfumes – NetSci 2018, lightning talk (Paris, France).

MISC

IT SKILLS Scientific computing and writing (Python, HPC, LateX, C++, Java, Matlab, IDL, SQL, R).

MEDIA My research caught attention of media outlets such as Dailymail, phys.org, earth.com.

EVENTS

- Co-organisation of “Advances of ML Approaches for Financial Decision Making & Time Series Analysis” in AMLD 2022.
- Two internal social events for researchers at Imperial College working on topics related to complex networks: “Networks Networking”.

AWARDS I was awarded Cormack Summer Vacation Research Scholarship in 2013.
I won a bronze medal in the International Olympiad on Astronomy and Astrophysics in 2012 (Rio de Janeiro, Brazil).
I won a silver medal in the Lithuanian National Olympiad on Astronomy and Astrophysics in 2012 and 2008, and placed 1st in the Lithuanian Regional Olympiad of Physics in 2012 and 3rd place in 2011 and 2010.
In 2012, I graduated from non-governmental physics school “Olympus of Physics”, Vilnius, Lithuania.

LANGUAGES

- English – proficient
- Lithuanian – mother tongue
- Russian – elementary
- German – beginner.

INTERESTS My current hobbies are mountain sports and spending time with my dog.