

# Ian Leifer

ianleifer93@gmail.com \* <https://ianleifer.github.io/>

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## SKILLS

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Programming	R (Advanced), C/C++ (Advanced), Bash (Intermediate) Matlab(Intermediate), Perl (Intermediate)
Software	Linux, Rcpp, Keras, Beautiful Soup, Selenium, Inkscape
Languages	Russian (native), English (proficient)

## EDUCATION

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**PhD Physics (Complex networks)** Fall 2016-present

*The Graduate Center, City University of New York (New York, NY)*

Scientific Advisor: Dr. Hernan Makse

- Data science and machine learning applied to social and biological networks
- Management experience: supervising PhD and Undergraduate students

**MSc Solid State Physics** Fall 2014-Spring 2016

*VSHOPF UNN (Nizhny Novgorod, Russia)*

Thesis: Synaptic activity propagation simulation in neural networks with realistic morphologies

Advised by Dr. Victor Kazantsev

- Developed software package for neural network growth process modeling and activity propagation simulation
- Executed statistical analysis of obtained data

**BSc Physics** Fall 2010-Spring 2014

*VSHOPF UNN (Nizhny Novgorod, Russia)*

Thesis: Functional relationship detection in neural networks of the brain

Advised by Dr. Victor Kazantsev

- Developed software package for handling of the data obtained from experiments run in the lab

## WORK EXPERIENCE

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**Teaching Assistant** Sep 2017-present

*City College of New York*

Taught physics labs for undergraduate students

- Was an instructor in a pilot innovative physics teaching program using education research-based materials

**Software Engineer C/C++** Aug 2013-Apr 2015

*MERA. Software Services Company*

Worked on low-level project for driver on Base Station boards

- Redeveloped component testing in the project, unified it for many subsystems and adopted several new testing tools
- Management experience: Leading a team of three people. Directed a 3 month long project, vastly improving testing process. Was initiator of the idea for this project, that later was approved by supervisors

**Software Engineering Intern C/C++** Summer 2013

*MERA. Software Services Company*

- Obtained basic knowledge in Linux, C, C++, internet networks

## PUBLICATIONS

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- Higor S. Monteiro, **Ian Leifer**, Saulo D. S. Reis, José S. Andrade Jr., and Hernán A. Makse. Efficient algorithmic paradigm to identify partial synchrony in information-processing networks using graph fibrations. (Under review Chaos 2020).
- **Ian Leifer**, Mishaél Sánchez, Wolfram Liebermeister, Cecilia Ishida, Hernán A. Makse. Predicting synchronized gene coexpression patterns from fibration symmetries in gene regulatory networks in bacteria. (Under review BMC Bioinformatics 2020).
- **Ian Leifer**, Flaviano Morone, Saulo D. S. Reis, José S. Andrade Jr., Mariano Sigman, Hernán A. Makse. Circuits with broken fibration symmetries perform core logic computations in biological networks. PLoS Comput Biol 16(6): e1007776. (2020).
- Flaviano Morone, **Ian Leifer**, Hernán A. Makse. Fibration symmetries uncover the building blocks of biological networks. Proc. Nat. Acad. Sci. USA. 117 (15) 8306-8314, April 14, 2020
- **Ian Leifer**, Lev Leifer. Small business valuation with use of cash flow stochastic modeling. Proceedings of SMRLO'16, IEEE, 2016. pp. 511 - 516