

ROMAN LEVIN

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EDUCATION

- SEPT 2017 – PRESENT **PhD in APPLIED MATHEMATICS**
University of Washington, Seattle
Advisors: Dr. Eric T. Shea-Brown & Dr. Aleksandr Y. Aravkin
- SEPT 2017 – DEC 2018 **MSc in APPLIED MATHEMATICS (en route)**
University of Washington, Seattle
GPA: 3.88/4.0
- SEPT 2013 – JUN 2017 **BSc in MATHEMATICS**
National Research University Higher School of Economics, Moscow
Advisor: Dr. Ilya V. Vyugin
Thesis: *On the Riemann-Hilbert Problem for Difference and q -Difference Systems*
RED DIPLOMA (GPA: 9.03/10)
Increased Federal Academic Scholarship for Outstanding Research Achievements

RESEARCH EXPERIENCE

- JAN 2018 – PRESENT **Research Assistant in Computational Neuroscience**
UNIVERSITY OF WASHINGTON, under Dr. Eric T. Shea-Brown
Optimization-based approaches for extracting low-dimensional spatio-temporal structure from wide-field Calcium imaging data. Building dynamical systems and machine learning models of the neural activity. Focusing on reliability, robustness and finding balance between accuracy and interpretability of the models.
- MAR 2018 – DEC 2018 **Research Assistant in Radiation Oncology**
UNIVERSITY OF WASHINGTON, under Dr. Minsun Kim
Optimization models for multi-modality radiation therapy of cancer. Developing fast algorithms for non-convex optimization, automating hyperparameter choice.

TEACHING EXPERIENCE

- SEPT 2017 – MAR 2018 TA at **the University of Washington**
Calculus with Analytic Geometry I (MATH 124)
Calculus with Analytic Geometry II (MATH 125)
- SEPT 2016 – JUN 2017 TA at **the Independent University of Moscow**
Calculus

COMPUTER SKILLS

Programming: PYTHON (TENSORFLOW, THEANO), JULIA, C++, R, MATLAB
Computational tools: MATHEMATICA, MATHCAD
Other: LINUX, SQL, HTML, \LaTeX

PUBLICATIONS

- R. LEVIN, A. Y. ARAVKIN, M. KIM *A Proof of Principle: Multi-Modality Radiotherapy Optimization* // In preparation
- I. VYUGIN, R. LEVIN *On the Riemann-Hilbert Problem for Difference and q -Difference Systems* // Proceedings of the Steklov Institute of Mathematics, 2017, Vol. 297

CONFERENCES AND TALKS

JAN 24-25, 2019	<i>Neural Computation and Engineering Connection 2019</i> UNIVERSITY OF WASHINGTON, Seattle Poster: "Optimization Based Model for Inferring Cortex-Wide Rate Dynamics"
JUL 13-18, 2018	<i>CNS 2018</i> 27th Annual Computational Neuroscience Meeting ALLEN INSTITUTE, UNIVERSITY OF WASHINGTON, Seattle Poster: "Optimization Approach to Inferring Network Dynamics from Cortex-Wide Imaging of the Mouse Brain"
JUN 27-29, 2018	<i>NeuroFutures 2018</i> UNIVERSITY OF WASHINGTON, Seattle Poster: "Optimization Approach to Inferring Network Dynamics from Cortex-Wide Imaging of the Mouse Brain"
AUG 13-20, 2017	<i>8th International Conference on Differential and Functional Differential Equations</i> RUDN UNIVERSITY, Moscow Talk: "On the Riemann-Hilbert problem for Difference and q -Difference Systems"
JUN 10-11, 2017	<i>Differential Equations and Related Problems of Mathematics</i> IX Regional Scientific Conference Zaraysk, Moscow region Talk: "On the Birkhoff's Theory of Linear q -Difference Equations and Analogue of the Riemann-Hilbert Problem"
NOV 9, 2016	<i>Seminar on analytic theory of differential equations</i> STEKLOV MATHEMATICAL INSTITUTE, Moscow Talk: "On the Riemann-Hilbert Problem for Linear q -Difference Systems"
SEPT 25-30, 2016	<i>Information Technology and Systems 2016: The 40th Interdisciplinary Conference and School</i> INSTITUTE FOR INFORMATION TRANSMISSION PROBLEMS OF RAS, St. Petersburg Talk: "On the Riemann-Hilbert Problem for Linear q -Difference Equations"

SUMMER SCHOOLS

JUL 11-29, 2016	<i>Machine Learning Summer School</i> CROC Inc., Moscow, Russia
MAY 22-26, 2016	<i>Operations Research and Applications</i> National Research University Higher School of Economics, Nizhny Novgorod, Russia

PROJECTS

MAR 2018	Detecting Emotions Online from EEG CSNE HACKATHON, UNIVERSITY OF WASHINGTON, Seattle Machine learning model for detecting emotions from EEG signal
JUN 2017 – JAN 2018	Martingale-based methods for Anomaly Detection HIGHER SCHOOL OF ECONOMICS, YANDEX, MOSCOW Approach based on multidimensional conformal martingales for anomaly-detection problems in multidimensional time-series. The model is now part of the Anomaly-Detection Library in Yandex (IT company in Russia)
JUL 2016	Anomaly-Detection System for Data Centers Monitoring HIGHER SCHOOL OF ECONOMICS, CROC INC., MOSCOW Machine learning model for real-time detecting of anomalies in the performance of virtual machines, based on Zabbix monitoring system data, the project was a part of CROC Inc. Machine Learning Summer School
MAR – MAY 2016	Finding the Optimal Distribution of Energy for Industrial Water Chiller Systems HIGHER SCHOOL OF ECONOMICS, CROC INC., MOSCOW Machine learning model for predicting the load and energy consumption for water-chiller stations, study project based on data provided by CROC Inc.