# Valeriya Cherepanova

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## Education

**Aug 2018-Present** — PhD in Applied Mathematics
**University of Maryland**, College Park

**Sept 2017-Sept 2018** — MRes in Computational Biology (CoMPLEX)
**University College London**, London
Graduate thesis: "DNA Methylation clock"
Distinction

**Sept 2013-Jun 2017** — BSc in Mathematics
**National Research University Higher School of Economics**, Moscow
Graduate thesis: "On Properties of solutions for the Riemann-Hilbert Problem on an Elliptic Curve"
GPA: 4.5/5.0

## Work Experience

**Aug 2018-Present** — Teaching Assistant in Calculus (MATH 140)
**University of Maryland**, College Park
I lead the discussion sections, grade worksheets and exams.

**Jul 2016-Oct 2016** — Consultant at the Data Analysis Department
**Teradata**, Moscow
I created a manual on Machine Learning methods and their applications for consultants. Also, I participated in a project on analysis of inflow and outflow of one of the major mobile operators' customers.

## Research Projects

**Dec 2018 - Present** — Computational Scaffold Network
**University of Maryland**, College Park
I apply a framework based on Computational Scaffold Network that is able to directly predict neural responses across large populations of neurons to understand visual computation.

**Jun 2018 - Aug 2018** — DNA Methylation clock
**University College London**, London
I analyzed the association between the ageing process and changes in the DNA methylation patterns using methods from statistics, machine learning and graph theory.

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| Apr 2018 - May 2018 | m-Africa: smartphone connected test for HIV<br>**University College London**, London<br>I developed an approach based on Convolutional Neural Network for interpreting the results of an HIV lateral-flow tests. |
| Feb 2018 - Mar 2018 | Analyzing signals from Neuropixels recordings of neural circuit activity<br>**University College London**, London<br>I analyzed the spatiotemporal characteristics of the extracellular signals recorded in a head-fixed mouse using the novel silicon probe Neuropixels. |
| Jan 2018 - Feb 2018 | Development of neural network architecture for the early diagnosis analysis of oncomarker data in women's cancer<br>**University College London**, London<br>I built a model based on Recurrent Neural Network for detection and early diagnosis of ovarian cancer. |
| Jun 2017-Jan 2018 | Martingale-based methods for Anomaly Detection<br>**Higher School of Economics, Yandex**, Moscow<br>I developed an approach based on multidimensional conformal martingales for anomaly detection problems in multidimensional time-series. The model is used in Anomaly Detection System in Yandex (IT company in Russia). |

## Conferences and Talks

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| June 15-16 2017 | Differential Equations and Related Problems of Mathematics<br>**IX Priokskaya Conference, Zaraisk, Moscow region**<br>Topic: "On Properties of solutions for the Riemann-Hilbert Problem on an Elliptic Curve"<br>Conference Paper p. 42-52 (in Russian) |

## Computer Skills

Programming: Python, R, Matlab, Mathematica, SQL