

# Gleb Lukicov

PhD Candidate in Physics

## Contact

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📍 London, UK

## Programming

Python, C++, Cython, SQL,  
Bash, Java, Fortran, PHP,  
HTML,  $\LaTeX$

## Data analysis

### Techniques

Fourier transform  
Monte Carlo methods  
Iterative optimisation  
Data quality monitoring  
Data simulation

### Python tools

NumPy, pandas, SciPy,  
Matplotlib, seaborn

### C and Fortran tools

GEANT4, ROOT,  
Millipede-II

## Machine Learning

### Techniques

Regression  
Classification  
GPU utilisation

### Tools

scikit-learn, TensorFlow,  
Keras

## Software

Linux, PostgreSQL, Git,  
Docker, JupyterLab, Excel,  
MATLAB, Mathematica

## Languages

English (native)  
Russian (native)  
Latvian (intermediate)

## Interests

### Professional

Education outreach  
Technology blogging

### Personal



Observational astronomy  
Thai kickboxing

## Profile

- Numerate and dynamic PhD candidate; proficient in **Python**, **C++**, **SQL**.
- 6+ years of experience in applying advanced statistical methods to large datasets.
- Applied expertise with distributed computing systems: servers, grid, IoT.
- Practical experience with big-data collection, storage, processing, and analysis.
- Proficient in using **scikit-learn** and **TensorFlow** pipelines for a variety of projects.

## Experience

2017–2019 **Fermi National Accelerator Laboratory**, *Researcher* Chicago, USA

- Developed a  *software infrastructure* for detector calibration.
- Improved the data quality by 4% and the yield of data by 3%.
- Derived calibration constants into the production database.
- Designed tools for data quality monitoring.
-  *Analysed* complex datasets on a computing grid.
- Supported the data acquisition as an on-call (24/7) computing expert.
- Liaised with engineers and safety officers to ensure a smooth operation of the experiment.

2015 **Paul Scherrer Institute**, *Trainee* Villigen, Switzerland

- Assisted in setting of a computing analysis cluster.
- Worked as part of a team of hardware and software experts to ensure continuous data taking.

2014 **University College London**, *Research Intern* London, UK

- Developed a QR-coded online database for research equipment.
- Produced a software solution for detector testing with Raspberry Pi.

## Projects

2015–2016 **Research Project**

- Developed a hardware solution using an Arduino-controlled servomotor, SiPM and Sr-90 source to test the efficiency of detectors.
- Produced a simulation model of the developed set-up for verification.

2015 **Group Project**

- Led a group of nine students to successfully build an electrostatic radon detector using a PIN diode and a 7 L steel vessel.
- Chaired monthly meetings and managed the group's budget.

## Education

2016–2020 **PhD** in Experimental Particle Physics **University College London**

(expected) Thesis work focused on detector optimisation and big-data analysis.

Courses: Statistical Data Analysis, Entrepreneurial Skills, Data Science:

- ML theory and techniques for big-data analysis, cloud computing
- Logistic regression, SVMs, random forests, unsupervised learning

2012–2016 **MSci** in Physics with *First Class Honours* **University College London**

Courses: Scientific OOP (**Java**), Statistical Physics, Electronics

## Qualifications

2019 – Now **Certificate in Advanced Machine Learning** Coursera

- Deep learning on Google Colab using TPUs and GPUs
- Bayesian methods for ML, CNN, NLP, reinforcement learning

## Awards

2018 **Visiting Scholar Award (\$15,000)** Universities Research Association

Based on the evaluation of a research and budget plan