

Gleb Lukicov

PhD Candidate in Physics

Portfolio

🏠 <https://glukicov.github.io>

Contact

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Programming

Python, C++, Cython, SQL, Bash,
Java, Fortran, PHP, HTML, ~~TeX~~

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, 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 articulate 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 data optimisation.
- 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