Gleb Lukicov

PhD Candidate in Physics

Contact

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London, UK

Programming

Python, C++, SQL, Bash, Java, Fortran, PHP, HTML, LaTeX

Data analysis

Techniques

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

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

PostgreSQL, Git, Docker, JupyterLab, MATLAB, Mathematica

Languages

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

Interests

Thai kickboxing
Observational astronomy

Profile

- Numerate and dynamic PhD candidate; proficient in Python, C++, SQL.
- Applied expertise with distributed computing systems: servers, grid, IoT.
- 6+ years of experience in applying advanced statistical methods to large datasets.

Experience

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

- Developed a software infrastructure for detector calibration.
- Increased the yield of data by 3% and data quality by 4%.
- Derived calibration constants into the production database.
- 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 (expected) **PhD** in Experimental Particle Physics **University College London**

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, Mathematical Methods, 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*