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/SVN, Docker/Singularity, JupyterLab, MATLAB, Mathematica

OS Proficiency

Linux, macOS, Windows

Hardware Skills

FPGA, Arduino, Raspberry Pi, oscilloscope, circuit layout

Data acquisition

low and high voltage systems, tracking detectors, clock and control systems

Languages

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

Interests

Thai kickboxing
running
travelling

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%.
- 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–Now **PhD** in Experimental Particle Physics *University College London*
Completion date: September 2020
Courses: Statistical Data Analysis, Entrepreneurial Skills Bootcamp, ML:

- 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

2010–2012 **A-levels** *Woodhouse Sixth Form College, London*

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 the **research proposal** and the **budget plan**.