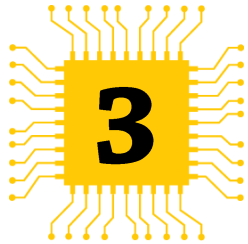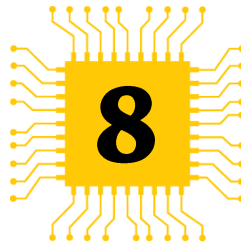**Faculty of Computer Science**

National Research University Higher School of Economics

Faculty of Computer Science

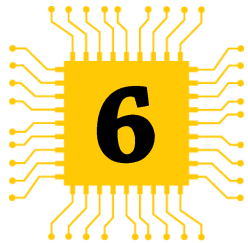## Established in March 2014

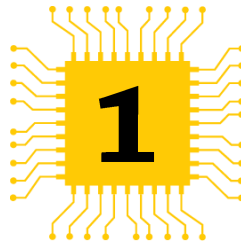**3** Bachelor's Programmes

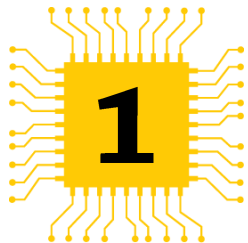**8** Labs

6 Master's Programmes

1 Doctoral School

1 Centre for Continuing Education
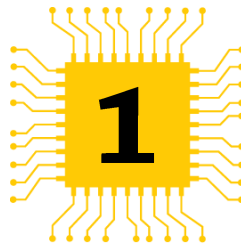
1 Centre for Student Competitions

Bachelor's Programmes

	Students	Years	Language
Applied Mathematics and Informatics Yandex	724	4	Ru/En
Software Engineering ABET	519	4	Ru/En
Data Science and Business Analytics Awarding Body: UNIVERSITY OF LONDON Academic Direction: LSE THE LONDON SCHOOL OF ECONOMICS AND POLITICAL SCIENCE	72	4	En

Master's Programmes

Data Science

146   2   Ru/En

Students   Years   Language

Yandex

Statistical Learning Theory

43   2   En

Students   Years   Language

Skolkovo Tech
Skolkovo Institute of Science and Technology

Master's Programmes

Financial Technologies and Data Analysis

SBERBANK

54
Students

2
Years

Ru/En
Language

Data Analysis in Biology and Medicine

32
Students

2
Years

Ru/En
Language

Master's Programmes

System and Software Engineering	67	2	En
	Students	**Years**	**Language**

System Programming	34	2	Ru/En
	Students	**Years**	**Language**

ISP RAS

Research

- Deep Learning and Bayesian Methods Centre

- Process-Aware Information Systems Lab

- Methods for Big Data Analysis Lab

- Intelligent Systems and Structural Analysis Lab

- Stochastic Algorithms and High-Dimensional Inference Lab

- Theoretical Computer Science Lab

- Bioinformatics Lab

- Complex Systems Modeling and Control Lab

Joint Departments

Joint Department with Yandex

Joint Department with SAS

Joint Department with the Federal Research Center of Computer Science and Control

Joint Department with the Institute for Information Transmission Problems

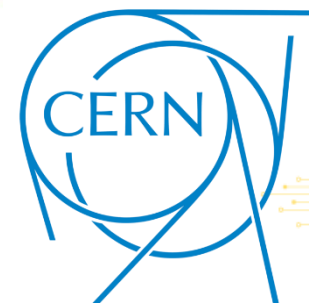Joint Department with the Institute for System Programming SAS

Partners

HSE is an LHCb Associate Member at CERN

- HSE researchers have full access to data from the collaboration and allow the university to participate in various projects

- The group from HSE consists of researchers from the Laboratory of Methods for Big Data Analysis (LAMBDA)


Joint events with CERN

- Annual CERN masterclass in particle physics: video conference between Moscow, Pisa, Paris, Cagliari, Rio de Janeiro.

- Summer School on Machine Learning in High Energy Physics
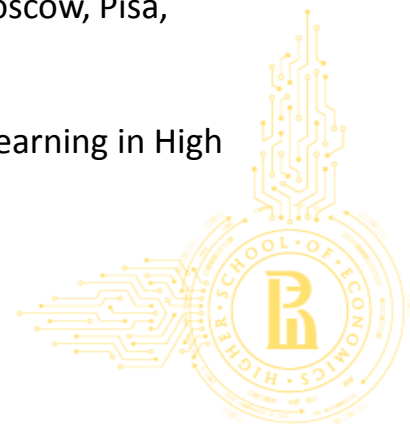
SBERBANK

Joint Master's Porgamme in Financial Technologies and Data Analysis

- The Programme is offered in collaboration with Sberbank

- Sberbank covers 100% of tuition fee for students

- Practical classes with data science experts from Sberbank
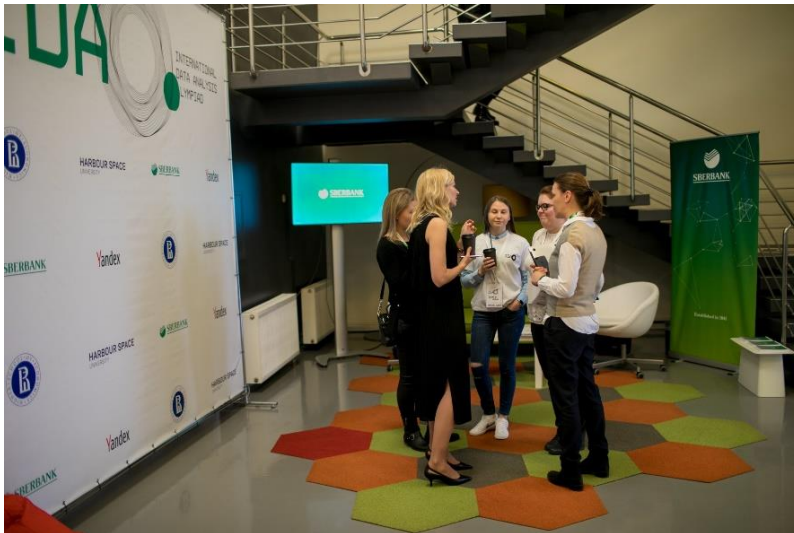
Joint projects:

- IDAO 2018 - Sberbank was the General Sponsor of the Olympiad

- Centre of Deep Learning and Bayesian Methods helped Sberbank to solve several data science tasks

Samsung-HSE Laboratory

- develops mechanisms of Bayesian inference in modern neural networks, which is to solve a number of problems in deep learning

- Between HSE Centre of Deep Learning and Bayesian Methods and Samsung AI Center

- Summer School on Deep Learning and Bayesian Methods

The major areas of research are:

- Sparsification and acceleration of deep neural networks
- Ensembles of ML algorithms
- Uncertainty estimation and defenses against adversarial attacks
- Loss-based learning for Deep Structured Prediction
- Stochastic optimization methods
- Learning and inference methods for probabilistic models using tensor decomposition

Rankings

	2016	2017	2018
QS Overall	501-550	411-420	382
QS Under 50	81-90	51-60	48
QS Mathematics	251-300	150-200	101-150
QS Computer Science	401-500	351-400	251-300

Rankings

	2017	**2018**
ARWU Matematics	101-150	76-100

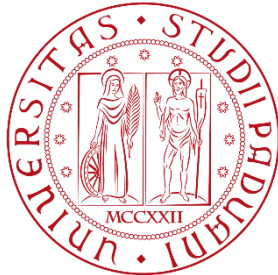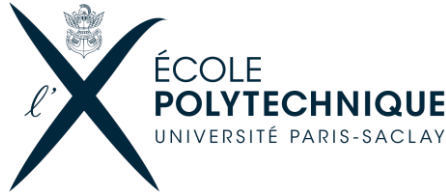|	**2017**	**2018**	**2019**
THE Overall	401-500	351-400	301-350
THE Under 50	96	85	

Foreign Partner Universities

International Summer Schools

Summer School on Deep Learning and Bayesian Methods

- 96 participants (students, graduate students and industry representatives)
- 7 countries (Great Britain, Spain, Netherlands, Belarus, USA, France, Switzerland)
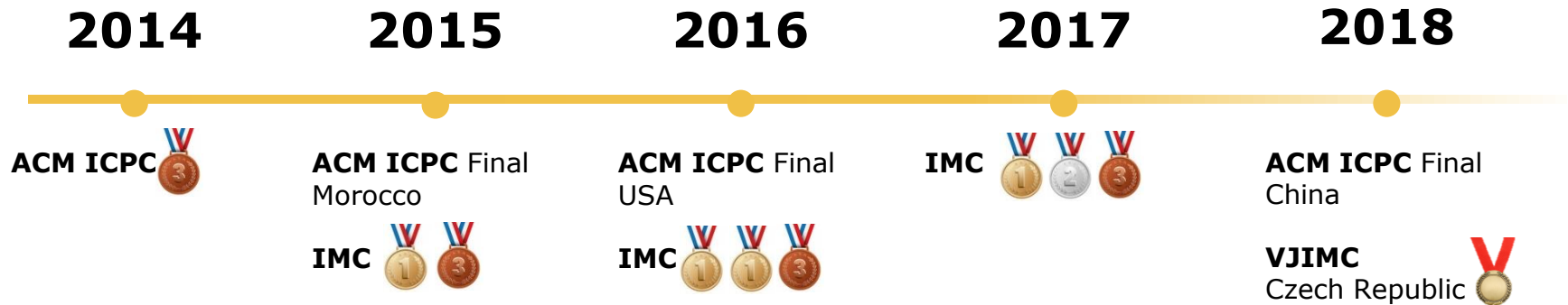- In partnership with Samsung AI Center

SAMSUNG

4th Summer School on Machine Learning in High Energy Physics

- 60 participants (students and faculty members)
- 18 countries and 47 universities
- In 2018 it was hosted in Oxford, UK
- In partnership with Yandex School of Data Analysis and Oxford University

UNIVERSITY OF **OXFORD**

SCHOOL OF DATA ANALYSIS

CERN

Competitions and Olympiads

Centre of Student Competitions of the Faculty of Computer Science helps students to prepare for various team and individual contests including ACM ICPC, Yandex.Algorithm, Google Code Jam, Russian Code Cup and etc.

2014

ACM ICPC 🥉

2015

ACM ICPC Final Morocco

IMC 🥇🥉

2016

ACM ICPC Final USA

IMC 🥇🥇🥉

2017

IMC 🥇🥈🥉

2018

ACM ICPC Final China

VJIMC Czech Republic 🥇

International Data Analysis Olympiad

Higher School of Economics, Yandex and Sberbank along with Harbour.Space University organized an olympiad created by and for data analysts.

Key numbers of IDAO 2018:
- 902 teams registered for the Online Round
- 36 teams in the Final Round
- 7 countries
- 13 Russian universities
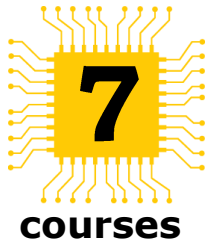- 6 foreign universities

ORGANISERS

GENERAL SPONSOR

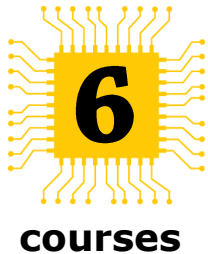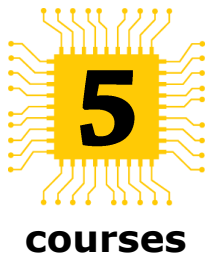# Coursera specializations

7 courses

Advanced Machine Learning

6 courses

Data Structures and Algorithms

5 courses
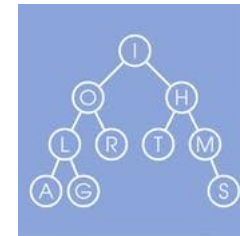
Introduction to Discrete Mathematics for Computer Science

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https://cs.hse.ru/en/