Tatyana Babushkina

Education

Sept. 2020 - Present Moscow Institute of Physics and Technology, MIPT, Master student, 1th year.

Department of Innovation and High Technologies Field of study: Applied Mathematics and Physics

Specialisation: Machine Learning and Data Analysis, Banking Information Technologies (SberTech)

Sept. 2016 - July. Moscow Institute of Physics and Technology, MIPT, Bachelor student.

2020 Department of Control and Applied Mathematics

Field of study: Applied Mathematics and Physics

Specialisation: Computer Science, State Research Institute of Aviation Systems (FSUE SRIAS)

Supervisor: Mikhail Okhotnikov, FSUE SRIAS, mao@gosniias.ru

GPA: 7.01/10.00

Main courses:

o Probability Theory

o Stochastic Processes

o Mathematical Statistics

o Machine Learning

o Image Processing in control systems

o Optimization Methods

o Functional Analysis

o Calculus, Complex Analysis

o Linear and Abstract Algebra

o Algorithms, Discrete Analysis

o Computational Mathematics

o General and Theoretical Physics

Projects & Practical Experience

Aug. 2019-July 2020 Bachelor's thesis. Studying of reliability indicators of onboard software.

Algorithm development for assessing the complexity of testing software modules of onboard software and getting a hybrid metric using machine learning methods. Obtaining an indirect assessment of software

Used: C, Python (Numpy, pandas, matplotlib, seaborn, scikit-learn, XGBoost and etc)

Supervisor: Mikhail Okhotnikov, FSUE SRIAS

Oct-Nov. 2019

Application of the theory of complex systems to analyze and summarize information on the cost of researching a company's fields using machine learning methods.

Educational practice on digitalization of processing and interpretation of geological and geophysical information, Sirius & Gazpromneft STC

The algorithm for predicting the profitability of exploration work depending on the complexity of the field and the oil recovery factor in it.

Used: Python (Numpy, pandas, matplotlib, seaborn, scikit-learn, XGBoost, PyTorch)

Project mentor: Boris Belozerov, Gazpromneft STC

June. 2020 Classifier for data with large gaps.

Entrance task to the Center for engineering and technology of MIPT & Gazpromneft STC.

The algorithm for determination of rock type and detection of oil-saturated layers in the well.

Used: Python (Numpy, pandas, matplotlib, scikit-learn, XGBoost)

Technical skills

Programming Python, C

Scientific Libraries NumPy, SciPy, pandas, matplotlib, scikit-learn, XGBoost

Operating Systems Windows, Linux

Professional software LATEX, Git, Docker, Hive

Database MS SQL

Languages

- English Upper-Intermediate (B2/C1)
- Français Elementary (A1)
- Russian Native

Honors and Awards

- 2016 Present Grant Recipient of the President of the Russian Federation, direction: science.
 - 2018 Absolute winner of Hackaton for commercialization within the All-Russian student's school on nanotechnology, Sochi.
 - 2015 3d place on IEPHO (Experimental Physics Olympiad) in the team competition of high school, Sochi.
 - 2015 Prize-winner on All-Russian Olympiad on Technology, St. Petersburg.
 - 2013 2016 Prize-winner on All-Russian Olympiad on Physics (region), Kirov.
 - 2015 2016 Prize-winner of different school olympiads in physics, maths: MEPhI Nuclear University Olympiad "Rosatom", Saint-Petesburg State University olympiad, MIPT's Olympiad "Phystech".

Extracurricular Education

- Online Courses: o Mathematics and Python for Data Analysis (by Yandex and MIPT in Coursera) https://coursera.org/share/c1d76f7c388ce1ccfcd22efcf7fadf8d
 - o Supervised Learning (by Yandex and MIPT in Coursera) https://coursera.org/share/249d118c30ae0f51ac1bd87dd387efe9
 - o Unsupervised Learning (by Yandex and MIPT in Coursera) https://coursera.org/share/a3e418dbec745741d4dbf3a4ea48735d
 - o Basics of statistics (by Bioinformatics Institute in Stepik) https://stepik.org/cert/495198?auth=registration
 - o Neural Networks & Computer Vision (by Samsung Research Russia in Stepik) In the progress

Hobbies & Extra Activities

- Skiing, Cooking
- Mathematics tutor for schoolchildren
- Student travel organizer