Farukh Yaushev

Curriculum Vitae

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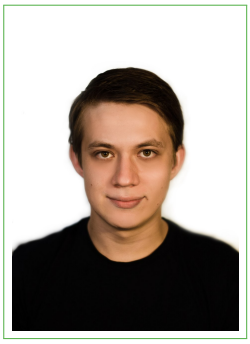

Education

2017–Present **BSc in Applied Mathematics and Physics**, Moscow Institute of Physics and Technology, Phystech School of Applied Mathematics and Informatics, chair of Information Transmission Problems and Data Analysis. Undergraduate student, 4th year (GPA: 8.3/10).

Work experience

2020–Present **Information Transmission Problems and Data Analysis**, Research engineer.

- Research application of B-spline functions for low-dimensional object localization on 2D or 3D medical images
- Building a neural network model for segmentation and classification of lymphnodes in the pelvic region on 3D MRI images

Scholarships

2020–2021 Increased State Academic Scholarship for educational achievements

2018–2019 Phystech Foundation Scholarship Award for top-ranked students of MIPT

Computer Skills

Programming Python, SQL, C/C++, LaTeX

Libraries pytorch, keras, tensorflow, opencv, numpy, scipy, pandas, matplotlib, etc.

Tools PyCharm, Jupyter Notebook, git, ssh, Docker, SGE, TMUX

Publications

Neuroscience and Medical Data Analysis

Spline functions for low-dimensional object localization IITP RAS (*the lab*)
In co-authorship and under supervision of PhD student Maxim Pisov and Dr. Mikhail Belyaev
Published as part of the ITaS'20 conference (*the paper*, *the conference*)

Projects & Experience

Medical Data Analysis

Segmentation and classification of lymph nodes in the pelvic region IITP RAS (*the lab*) | September 2020 - December 2020
The goal of the project was to write a neural network model to segment and classify the lymph nodes in the pelvic region on MTR to determine the histological status of the patient. Depending on this status, the patient is prescribed appropriate treatment.

Deep Learning **Investigation of ways to coordinate models by reducing the dimension of space**
As part of MIPT 6th semester CS and Optimization courses | *poster*
In the project investigated methods (DeepCCA, Autoencoder) for identifying dependencies between the target and the independent variable. (*read more*)

Network **Ip-camera telegram bot** As part of MIPT 7th semester CS and Network technologies courses
Telegram bot for controlling the camera by ip address. YOLOv3 was used to detect people and vehicles in the image from the camera. (*read more*)

Coursework

Mathematics Statistics, Probability Theory, Stochastic Processes, Optimization Methods, Computational Mathematics, Calculus (I, II, III, IV), TFCV, Functional Analysis, Linear and Abstract Algebra, Algorithms and Models of Computation, Discrete Analysis, Differential Equations

Computer Science Python Programming, Hardware/Software Interface, Operating Systems (GNU/Linux), OOP (C/C++), Parallel Programming, SQL and Databases, Algorithms and Data Structures

Machine Learning Deep Learning (specialization by deeplearning.ai), Fundamental principles of modern methods of deep learning, The main methods of clustering and recognition, Introduction to Machine Learning

Other Projects and Homeworks

Deep Learning **Hateful memes challenge** As part of MIPT 7th semester CS course
A competition from Facebook. Classification of (offensive / non-offensive)memes by image and text description. Architectural ResNet-152, LSTM, and BERT were used

C/C++ **Bash emulator** A part of MIPT 3rd semester CS course
An emulator of the GNU Bash was written on C++

C++/Python **Sound track editor and classifier** final ICT class group project
A C++ API for various WAV files transformations has been created, also a neural algorithm for musical instrument recognition has been written on Python (*read more*)

Hobbies & Interests

Playing musical instruments (violin, piano, guitar), English and Russian literature in the original, Business

Languages

English (Upper Intermediate), Russian and Tatar (Native)