Shirin Alanova

Moscow, Russia
✆ +7 (916) 932 6755
shirin.alanova@gmail.com

Education

2019–2023 **National Research University Higher School of Economics**,
BS in Applied Mathematics and Computer Science, Faculty of Computer Science, Moscow
Relevant coursework:

- Algorithms and data structures in Python and C/C++
- Math (Linear Algebra, Matrix Computations, Calculus, Probability Theory)
- Machine Learning and Deep Learning (Computer Vision, NLP)

Research Projects

2022 **Course of Computer Vision**, Moscow, Russia
- The course covers the main tasks of Computer Vision
- Understood what all **photo editors** are based on, learned how to programmatically process images
- Solved problems of **classification**, **segmentation** and **detection**
- Got acquainted with **generative models** and algorithms for **3D objects**
- **Technologies: PyTorch, Python, Pandas, Sklearn, Numpy**

2022 **Speech-based diagnostics of depression with machine learning**, Moscow, Russia
- Developed a Python script by using the **package Librosa**. It allowed to create a dataset from the extracted 52 audio features from interview recordings
- Investigated 6 machine learning algorithms for classifying depression stages. Found that **Random Forest and KNN** give the best values of the metrics **F_1-score, AUC-ROC and specificity**
- Researched the reason why the oversampling methods worked poorly for my task
- **Technologies: Python, Pandas, Sklearn, Librosa, Numpy**

2022 **Thematic modeling of short text messages**, Moscow, Russia
- I used different models to perform title generation from Arxiv abstracts
- Studied modern methods of topic modeling
- Tested BERT, RoBERTA, and other models for topic modeling on the selected dataset
- **Technologies: Transformers, PyTorch, Python, Pandas, Sklearn, Numpy**

2021 **Telegram bot for book recommendations**, Moscow, Russia
- Developed a Telegram bot by using **telebot package**. Added functionality of returning information about a book or author, creating a day selection of poems and quotes, recommending books by genre
- Implemented the project using API requests
- **Technologies: Python, Telebot package**

2021 **ECG-based heart disease detection system**, Moscow, Russia
- Researched efficient and convenient methods for extracting data from various wearable devices. Opted for Google Fit platform
- Implemented a Python script based on API requests that retrieved health data
- Devise a web service with **Python and Flask framework** that visualized all received data from different wearable devices
- **Technologies: Python, Flask framework**

Professional skills

Languages   Python, C/C++, Bash shell, Markdown, SQL
Technologies   Nympy, Pandas, Sklearn, PyTorch, Tensorflow
Environments   Jupyter, Colab, PyCharm, Clion

Achievements and awards

2019 **The 15th International Zhautykov Olympiad in mathematics**,
Almaty, Republic of Kazakhstan, participation

2019 **The 58th MIPT Physics and Mathematics Olympiad**,
Bishkek, Kyrgyz Republic, 2nd degree diploma

2018 **The 5th Iranian Geometry Olympiad**,
Bishkek, Kyrgyz Republic, honorable mention