RUSHANA DENISHEVA

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Experience

- **RnD at IRA Labs** — IRA Labs
  Computer Vision | Python | pandas | Research | Pytorch — *June 2023 - September 2023*
  - Solved the problem of segmentation of abdominal organs on three-dimensional computed tomography(CT) images.
  - Trained an algorithm to determine gender from a three-dimensional CT scan.
  - Analyzed previous research on segmentation and classification of CT images
  - Conducted data preprocessing and visual data analysis

- **RnD at IITP RAS** — IITP RAS
  Research | Python | Statistics | Machine Learning | Deep Learning — *June 2023 - Present*
  - Doing research in the computer linguistics lab.
  - Taking courses in Statistics, Deep Learning, Color Analysis and etc.

- **Applied Data Analysis** — IITP RAS
  Machine Learning | Python | XGBoost | CatBoost — *February 2024 - May 2024*
  - Gained in-depth theoretical knowledge of machine learning
  - Created pet projects on topics:
    * Boosting
    * Customer Churn Rate and etc.

- **Published article "Fairness of deep learning models in 3D medical image segmentation task"** — IITP RAS
  Research | Computer vision | Neural Network | pandas — *September 2023*
  - Researched the topic of fairness in machine learning.
  - Conducted experiments training neural networks and analyzed results

Main Projects

- **Hough Algorithm for Detecting Lines** — IITP RAS
  Python | Nox | black | flake8 | safety | xdoctest — *May 2024*

  This project implements the Hough transform algorithm for detecting lines in images and includes several Nox sessions:
  - Lint using flake8.
  - Format code using black.
  - Scan dependencies for insecure packages using safety.
  - Build the documentation and etc.

- **Computer vision system for photo processing** — Yandex
  Computer Vision | Python | Keras | Callgrind — *June 2024*

  Built a model that will determine the approximate age of a person from a photograph using Keras.

- **"CS224N: Natural Language Processing with Deep Learning"** — Online
  Natural language processing course from Stanford University — *July 2024 - September 2024*
  - Reviewed the mathematics behind Word2Vec and built a neural dependency parser using PyTorch
  - Built Neural Machine Translation with RNNs and analyzed NMT Systems.
  - Covered mathematical properties of Transformers and self-attention, got experience with practical system-building through repurposing an existing codebase

- **Review of scholarly article "Why momentum really works?"** — MIPT
  Research | Optimization — *May 2023*

  My review of the article about the influence of momentum in optimization algorithms

Additional Education

- **Course "Business Programming Paradigms: Databases and SQL"** NIX
  A year-long course in databases and data analysis from a computer company NIX *September 2022 - May 2023*

  SQL

  - Projects using graphs, logs, and analytical compilation of databases
  - Knowledge of SQL

Education

- **Moscow Institute of Physics and Technology (MIPT)** Moscow, Russia
  Bachelor of Department of Radio Engineering and Computer Technology (DREC) *September 2021 - Present*

Programming Skills

- **Knowledge**: Machine Learning, Neural Networks, Computer Vision, Natural Language Processing
- **Languages**: Python
- **Technologies**: SQL, Git, Nox, flake8, docopt, black, safety
- **Libraries**: Pytorch, Keras, OpenCV, XGBoost, CatBoost, numpy, pandas, matplotlib, scipy, seaborn, sklearn

Other

- **Environments of interest**: Machine Learning, Neural Networks, Data Analysis
- **Languages**: English (Upper-Intermediate), German(Intermediate), Russian (native)
- **Personal traits**: responsibility, punctuality, purposefulness
- **Hobbies**: Workout, dancing, piano