

# Yulia Yakovleva

Software engineer

Moscow  
Russian Federation  
✉ [robolamp@ya.ru](mailto:robolamp@ya.ru)

📍 [robolamp](https://robolamp.kotobank.ch/~robolamp/)  
[kotobank.ch/~robolamp/](https://robolamp.kotobank.ch/~robolamp/)

---

## Experience

- November 2021 – **Machine learning engineer**, *Descriptor.ai*, Remote/Moscow.
- Now
- Sound data processing with deep learning models (Python, NumPy, TensorFlow, Keras, Sound data).
- July 2021 – **Machine learning engineer**, *MediaZona*, Remote/Moscow.
- October 2021
- AI Text Generation (NLP, Python, NumPy, TensorFlow, Keras, Transformers, GPT): I worked on conditional text generation with neural networks. My responsibilities included both engineering/coding and interaction with non-tech employees of MediaZona on translating their non-tech requirements into "tech language", finding the data and getting a feedback on text generators' work.
- March 2018 – **Software engineer**, *Yandex Self-Driving Cars*, Moscow.
- May 2021
- Sensor diagnostics software (ROS, C++, Python, NumPy): I created data quality checking software modules for cameras and LiDARs.
  - Traffic lights recognition software (ROS, C++, Python, NumPy, TensorFlow, Keras).
    - I worked on improvement of traffic lights recognition and tracking pipeline,
    - learning data mining, pre-processing and datasets preparation,
    - created, learned and deployed multiple iterations of deep neural networks, which are working now on hundreds of self-driving cars made by Yandex.
- October 2015 – **Robotics researcher/developer**, *Institute for Information Transmission Problems RAS (Kharkevich Institute)*, Moscow.
- August 2017
- Self-driving car prototype positioning and control software. I created or worked on the following modules:
    - System launch tool to replace ROSLaunch (Python, ROS, Paramiko);
    - Local positioning system (C++, Eigen, Kalman filters);
    - Trajectory control system (C++, ROS);
    - Developers' web-interface (Python, JS (Leaflet.JS, Bootstrap), ROS);
    - Road markup-relied localization system (C++, ROS).
  - Initiative works in deep learning for robotics control (just for fun).

- June 2015 – **Junior web-developer**, *WETA Group*, Remote.
- October 2015 Full-stack web-development
- Information security system web-interface:  
I developed two web-applications using Django non-rel backend and JS frontend with MongoDB database;
- July 2013 – **Junior control systems developer**, *Modern Signal Processing and Control Technologies R&D Laboratory*, Chelyabinsk.
- June 2015
- Turboshift engine control system development:
    - I performed Turboshift math modelling using MATLAB/Simulink,
    - participated in control system design, test stands assembling and commissioning;
  - Self-driving car prototype trajectory control system:
    - I proposed control algorithms and performed math modelling using MATLAB/Simulink,
    - implemented these Algorithms (C++, control unit with STM32 and NuttX RTOS),
    - performed HIL testing using Python and NumPy and participated in field tests.
  - I developed UAV test stand software: Scilab, interaction with National Instruments data acquisition system.

---

## Talks

**Traffic Lights in Yandex Self-Driving Cars**, *Presented at Yandex Self-Driving Meetup 2019, PyLadies Moscow and PyLadies Kazan.*

A short talk in Russian about the difficulties of traffic lights recognition and about Yandex Self-Driving Cars traffic lights recognition pipeline.

**Myths about Self-Driving Cars**, *Presented at WTM Moscow.*

An interactive talk in Russian about self-driving cars architecture, sensors and testing.

**Data mining in Yandex Self-Driving Cars**, *Presented at Pytup Moscow.*

A short talk in Russian about data processing pipeline in Yandex Self-Driving Cars project.

---

## Volunteering

- May 2020 – now **Web developer/data analyst**, *OVD-Info*, Remote/Moscow.
- OVD-Info is an independent human rights media project. I'm participating in development of information collection and analysis system for OVD-Info using SQL, Python and Django.

---

## Education

- 2010–2015 **National Research South Ural State University**;  
Computer Technologies, Control and Radio Electronics Faculty;  
Automation and Control Department;  
MEng with honours.
- 2015–2017 **Moscow Institute of Physics and Technology (State University)**;  
Department of Innovation and High Technologies;  
Cognitive technologies sub-faculty;  
MSc in Computer Science.

---

## Languages

Russian	Native speaker
English	Intermediate
German	Beginner
Tatar	Beginner

---

## Skills

Main:

C++ (Eigen), Python (Jupyter, NumPy, Keras, Sklearn), Git, ROS, Linux, Machine Learning, Computer Vision.

Experience with:

Bash, C, OpenCV, JS (some outdated frameworks), Django, Docker, L<sup>A</sup>T<sub>E</sub>X, Dynamic systems math modelling, Matlab/Simulink.

---

## Pet projects

**rTerm**, [github.com/roboLamp/rTerm](https://github.com/roboLamp/rTerm).

Fake JS-based UNIX term for my personal page.

**Random three body problem bot**, [github.com/roboLamp/3\\_body\\_problem\\_bot](https://github.com/roboLamp/3_body_problem_bot).

A program which is simulating the behavior of random three body system multiple times and publishing animation of the most interesting one every 12 hours at Telegram channel.

---

## Interests

Space, alpine skiing, cross-country skiing, bicycling.