# Yulia Yakovleva

*Software engineer*

*Moscow*
*Russian Federation*
✉ *robolamp@ya.ru*
*robolamp*
`kotobank.ch/~robolamp/`

## Experience

March 2018 – Now — **Software engineer**, *Yandex Self-Driving Cars*, Moscow.

- Self-driving car perception software:
  - Sensors diagnostics (ROS, C++, Python, NumPy): I created simple data quality checking software modules for cameras and LiDARs.
  - Traffic lights recognition pipeline (ROS, C++, Python, NumPy, TensorFlow, Keras). Traffic lights recognition and tracking pipeline; learning data mining and pre-processing; creating, training and deployment of deep learning models.
- Talks about Yandex Self-Driving Cars project:
  - Traffic Lights in Yandex Self-Driving Cars;
  - Myths about Self-Driving Cars;
  - Data mining in Yandex Self-Driving Cars.

August 2017 – March 2018 — **Software engineer**, *Unemployed/Self-employed*, Moscow.

October 2015 – August 2017 — **Robotics researcher/developer**, *Institute for Information Transmission Problems RAS (Kharkevich Institute)*, Moscow.

- 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 – October 2015 — **Junior web-developer**, *WETA Group*, Remote.

Full-stack web-development

- Information security system web-interface:
  I developed two web-applications using Django non-rel backend and JS + some outdated frameworks frontend with MongoDB database;

July 2013 – June 2015 **Control systems developer**, *Modern Signal Processing and Control Technologies R&D Laboratory*, Chelyabinsk.

Control systems development.

- Turboshaft engine control system development:
  - I performed Turboshaft math modelling using MATLAB/Simulink,
  - participated in design, test stands assembling and commissioning of the control system;
- 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.

January 2012 – June 2015 **Laboratory assistant**, *South Ural State University*, Chelyabinsk.

Control systems research.

## Talks

## 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)**;
Deparment 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, LaTeX, Dynamic systems math modelling, Matlab/Simulink.

## Interests

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