

# ALEXEY NEKRASOV

✉ alexey@nekrasov.dev · 🌐 nekrasov.dev · 📞 +49-(160)-323-54-51 · 🌐 github.com/kumuji

## EXPERIENCE

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**Computer Vision Institute (RWTH)** Aachen, Germany June. 2019 – Present

*Graduate Research Assistant* at group of Prof. Leibe

Improvement of tracking pipeline for an industrial robot, research

- Increased accuracy of tracking pipeline by 3% using self-developed deep-learning approach (Pytorch);
- Developed methods for 3d object detection and segmentation for point clouds as part of research;
- Developed several real-time ROS and python packages on C++ and python for real-world industrial robot with limited resources using (OpenCV, pytorch, tensorflow, ONNX, TensorRT);
- Refactored code of 3 teams on different robots into one unified code repository (ROS, C++, Python);

**IBM** Moscow, Russia Jan. 2017 – Oct. 2018

*Machine Learning Engineer* at Global Business Services Department in Data Science group

Analysis of data, development of prediction models for industry

- Implemented predictive maintenance model using LSTMs(Keras) and classical ML on SQL real-world data, deployed in production;
- Implemented forecasting model for the human resource demand planning using python and classical machine learning approaches, deployed in production;
- Analysis and reporting of data from industrial machinery using python(pandas, scikit-learn) and SPSS which lead to a new project;
- In two months, fully developed a robotics platform leading a team of 2 other interns for Conference Moscow.

**Hydronautics student team** Moscow, Russia Sep. 2015 – Sep. 2016

*Captain* of student underwater robotics team

International competition in NASA USA, July 2016. Participated as a C++ programmer for electronics devices and a manager.

- Managed team of 30+ volunteers;
- Lead team of 10 people to international competition;
- In one year developed fully working robot;
- Developed and deployed programs for ARM and AVR devices using C++(C).

## EDUCATION

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**RWTH Aachen University**, Aachen, Germany Oct. 2018 – Present

*M.Sc* Robotics Systems Engineering (English-taught), expected December 2020

**Bauman Moscow State Technical University**, Moscow, Russia Sep. 2013 – Sep. 2017

*B.Sc. Mechatronics and Automatization* Underwater robotics

## QUALIFICATIONS

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- Programming Languages: Python > C++(C), Bash, SQL,  $\LaTeX$
- Technologies and tools: Linux, Git, Docker, Slurm, ROS, OpenCV, ONNX, TensorRT, Pytorch, Tensor-Flow, Scikit-learn, Keras, Vim, Tmux, DVC
- Languages: Russian, English, German(A2)