EKATERINA V. KOTLIAROVA

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Professional knowledge

- Computer vision, math modeling, Python 3, machine learning
- Keras, tensorflow, pandas, scikit-learn, OpenCV
- Some experience in NLP
- English, IELTS Academic results: S 5.5, R 8.5, L 7.0, W 5.5, overall 6.5

Work Experience

Junior-developer in State Research Institute of Aviation Systems (GosNIIAS), Laboratory of Photogrammetry, Moscow, November 2017 - April 2019

I worked with computer vision, in particular, image semantic segmentation. My responsibilities included:

- data preparation for training, testing and validation of neural networks
- building modular semantic segmentation algorithms (for example: input image - input to a neural network, detecting boundaries - output image with boundaries - input to a segmentation network - output image)
- and more projects can be found on my github

Research and Development Assistant at Huawei Technologies, Mathematical Modelling Competence Center, Moscow, April 2019 — September 2020.

My terms of reference include:

- data mining and preparation for training, testing and validation neural networks and machine learning models (numpy, pandas, etc)
- building neural network models in keras (rarely in tensorflow), tuning machine learning models (sklearn, scipy, etc)

Researcher at Tampere University, September 2020 — March 2021.

My research was related to computer vision, especially to the semantic SLAM development. In particular, I worked on a CNN-based local image detector and descriptor which will be robust to different illumination conditions for indoor environments.

Education and Research

Moscow Institute of Physics and Technology, September 2019 —present, PhD student
Moscow Institute of Physics and Technology, September 2017 —August 2019, master's degree
Voronezh State University, September 2013 — August 2017, bachelor's degree (diploma with honours)

- Paper related to the topic of semantic segmentation, «Semantic segmentation of satellite images of airports using convolutional neural networks»
- Two papers related to the topic of mathematical modelling of traffic flows: «The recovery model for the calculation of correspondence matrix for Moscow» and «Finding equilibrium in two-stage traffic assignment model»
- Participation in the conference «Dialogue», May 2018, paper can be seen here (in English)
- Participation in a great number of Russian conferences and research schools.