

Iaroslav Melekhov

Postdoctoral researcher

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Skills

computer vision image-based localization, image matching, Structure-from-Motion, stereo vision, depth estimation, 3-D reconstruction.
Python, C/C++, Lua, numpy, matplotlib, pandas, scipy, Matlab.
DL PyTorch, OpenCV, scikit-learn, Caffe.

Experience

01/20–now **Computer vision researcher, Aalto University, Espoo, Finland.**
07/19–11/19 **Research intern (Computer Vision), Niantic Labs, London, UK,** Working on a CNN-based feature detector and descriptor which is robust to different weather/illumination conditions and large view-point angles.
10/18–04/19 **Researcher intern (Computer Vision), Wayve.ai, Cambridge, UK,** Proposed a self-supervised approach for video-scene understanding with the focus on autonomous vehicles.
11/17–04/18 **Visiting researcher, ETH Zürich,** Proposed a CNNs-based method for geometric image correspondences and image alignment.
01/15–01/16 **Researcher, CMV group, University of Oulu,** Implementing an algorithm for patch matching problem; Conducting research related to image retrieval using Caffe library.
09/09–12/14 **Software Developer, Soft-Alliance, St. Petersburg, Russia,** Implemented an aircraft trajectory prediction module based on dynamic characteristics of the aircraft and environment conditions.

Education

2016–2020 **PhD in Computer vision, Aalto University, Finland.**
2008–2010 **M.Sc in Radio Engineering, St.Petersburg Electrotechnical University "LETI", Russia, GPA 3.96/4.0.**
2004–2008 **B.Sc in Radio Engineering, St.Petersburg Electrotechnical University "LETI", Russia, GPA 3.91/4.0.**

Selected Publications

Digging Into Self-Supervised Learning of Feature Descriptors, 3DV 2021.

[I. Melekhov](#), Z. Laskar, X. Li, S. Wang, J. Kannala

Continual Learning for Image-Based Camera Localization, ICCV 2021.

S. Wang, Z. Laskar, [I. Melekhov](#), X. Li, J. Kannala

DGC-Net: Dense Geometric Correspondence Network, WACV 2019, Best Honourable paper award.

[I. Melekhov](#), T. Sattler, A. Tiulpin, M. Pollefeys, E. Rahtu, J. Kannala

Geometric Image Correspondence Verification by Dense Pixel Matching, WACV 2020.

Z. Laskar*, [I. Melekhov](#)*, H. Tavakoli, J. Ylioinas, J. Kannala; *equal contribution

TC-Net: Self-Supervised Monocular Video Scene Understanding Using Temporally Consistent Geometric Prior, ICMLW 2019.

[I. Melekhov](#), E. Rahtu, J. Kannala, A. Kendall

Relative Camera Pose Estimation using Convolutional Neural Networks, ACIVS 2017, (oral).

[I. Melekhov](#), J. Ylioinas, J. Kannala, E. Rahtu

Awards and Scholarships

2020 Our approach secured 2nd place in two ECCV 2020 competitions on image-based localization **1** and **2**
2018 Google Landmark Recognition Challenge (Kaggle) - Top 9% (out of 477 teams)
2017 TensorFlow Speech Recognition Challenge (Kaggle) - Top 9% (out of 1315 teams)
Dec.2018 Nokia Foundation scholarship
Jun.2016 Otto Malm scholarship

Hobbies

playing football, cooking, reading, participating in kaggle competitions