ICPR-2020
7th International Workshop
"Image Mining. Theory and Applications"
(IMTA-VII-2020)
January 11, 2021 – Monday

CET

12:00-12:20 **Workshop Opening**

Session 1. Invited Papers (12:21 – 13:20)

12:21–12:50 **K**
23. Dr. Davide Moroni and Dr. Maria Antonietta Pascali.
Learning topology: bridging computational topology and machine learning
Institute of Information Science and Technologies, CNR, Pisa, Italy
e-mail: davide.moroni@cnr.it

12:51-13:20 **K**
39. Prof. Dr. Bernd Radig.
Automated Visual Large Scale Monitoring of Faunal Biodiversity
Munich Technical University, Munich, Germany
e-mail: radig@in.tum.de

Session 2: Regular Papers (13:21 – 16:00)

13:21-13:30 **S**
1. Nikita Andriyanov, Vitaly Dement'Ev, Alexandr Tashlinsky and Konstantin Konstantinovich Vasiliev.
The Study of Improving the Accuracy of Convolutional Neural Networks in Face Recognition Tasks

13:31-13:40 **S**
38. Nikita Andriyanov.
First Step Towards Creating a Software Package for Detecting the Dangerous States During Driver Eye Monitoring

13:41-13:55 **L**
37. Viacheslav Antsiperov.
Maximum Similarity Method for Image Mining

13:56-14:05 **S**
20. Alina Belko, Konstantin Dobratulin and Andrey Kuznetsov.
Two-stage classification model for feather images identification

14:06-14:20 **L**
12. Pavel Chochia.
Image decomposition based on region-constrained smoothing

14:21-14:30 **S**
14. Vitalii Dementev, Marat Suetin, Maria Gaponova and Anastasia Streltsova.
The use of machine learning methods to detect defects in images of metal structures

14:31-14:40 **S**
29. Polina Demochkina and Andrey V. Savchenko.
MobileEmotiFace: Efficient Facial Image Representations in Video-based Emotion Recognition on Mobile Devices

14:41-14:55 **L**
11. Sergey Dvoenko and Denis Pshenichny.
On New Kemeny's Medians

14:56-15:05 **S**
28. Igor Gurevich, Maria Budzinskaya, Vera Yashina, Adil Tleubaev, Vladislav Pavlov and Denis Petrachkov.
Automation of the Detection of Pathological Changes in the Morphometric Characteristics of the Human Eye Fundus Based on the Data of Optical Coherence Tomography Angiography

15:06-15:20	**L**	22. Nataly Ilyasova, Aleksandr Shirokanev, Nikita Demin and Andrey Zolotarev. *High-performance algorithms application for retinal image segmentation based on texture features*
15:21-15:30	**S**	19. Kirill Kalmutskiy, Vladimir Berikov and Andrey Tulupov. *Recognition of tomographic images in the diagnosis of stroke*
15:31-15:40	**S**	25. Alexander Karkishchenko and Valeriy Mnukhin. *Interest points detection based on sign representations of digital images*
15:41-15:50	**S**	17. Victor Krasheninnikov, Yuliya Kuvayskova, Olga Malenova and Alexey Subbotin. *The test of covariation functions of cylindrical and circular images*
15:51-16:00	**S**	8. Marios Krestenitis, Nikolaos Passalis, Alexandros Iosifidis, Moncef Gabbouj and Anastasios Tefas. *Human Action Recognition using Recurrent Bag-of-Features Pooling*

Session 3. Invited Papers (16:01 – 17:00)

16:01-16:30	**K**	30. Dr.-Eng. Igor Gurevich and Dr. Vera Yashina *Basic Models of Descriptive Image Analysis* Federal Research Center "Computer Sciences and Control" of the Russian Academy of Sciences, Moscow, Russian Federation e-mails: werayashina@gmail.com, igourevi@ccas.ru
16:31-17:00	**K**	40. Prof. Dr. Gerhard Ritter. *Pattern Recognition Capabilities of Lattice based Neural Networks* University of Florida, Gainesville, USA e-mail: ritter@cise.ufl.edu

Session 4: Regular Papers (17:01 – 19:40)

17:01-17:15	**L**	3. Luciano Melodia and Richard Lenz. *Estimate of the Neural Network Dimension Using Algebraic Topology and Lie Theory*
17:16-17:30	**L**	5. Eckart Michaelsen. *On the Depth of Gestalt Hierarchies in Common Imagery*
17:31-17:40	**S**	9. Dmitry Murashov, Aleksey Berezin and Ekaterina Ivanova. *Algorithms Based on Maximization of the Mutual Information for Measuring Parameters of Canvas Texture from Images*
17:41-17:55	**L**	31. Evgeny Myasnikov. *Evaluation of spectral similarity measures and dimensionality reduction techniques for hyperspectral images*
17:56-18:05	**S**	7. Rodrigo Nava, Duc Fehr, Frank Petry and Thomas Tamisier. *Tire Surface Segmentation in Infrared Imaging with Convolutional Neural Networks*
18:06-18:20	**L**	6. Anatoly Nemirko. *Image recognition algorithms based on the representation of classes by convex hulls*
18:21-18:30	**S**	24. Alexander Petunin, Alexander Khalyavka, Michael Khachay, Andrei Kudriavtsev, Pavel Chentsov, Efim Polishchuk and Stanislav Ukolov. *Library of sample image instances for the Cutting Path Problem*
18:31-18:40	**S**	16. V. B. Surya Prasath, Dang Ngoc Hoang Thanh, Nguyen Hoang Hai and Sergey Dvoenko. *Multiregion multiscale image segmentation with anisotropic diffusion*

18:41-18:50	**S**	10. Ivan Semchuk, Natalia Muravskaya, Konstantin Zlobin and Andrey Samorodov. *Machine learning approach for contactless photoplethysmographic measurement verification*
18:51-19:00	**S**	18. Oleg Seredin, Andrey Kopylov and Aleksandr Larin. *One-class classification criterion robust to anomalies in training dataset*
19:01-19:10	**S**	13. Zaur Shibzukhov and Timofey Semenov. *Machine Learning Based on Minimizing Robust Mean Estimates*
19:11-19:25	**L**	21. Ghulam-Sakhi Shokouh, Baptiste Magnier, Binbin Xu and Philippe Montesinos. *An Objective Comparison of Ridge/Valley Detectors by Image Filtering*
19:26-19:40	**L**	26. Sergey Usilin, Oleg Slavin and Vladimir Arlazarov. *Memory Consumption and Computation Efficiency Improvements of Viola-Jones Object Detection Method for UAVs*
19:41-20:00		**Workshop Closing**