

ANNPR 2018

Siena

19th - 21st September 2018



8th IAPR TC3

Workshop on

Artificial Neural Networks
in Pattern Recognition



Università degli Studi di Siena
Dipartimento di Ingegneria
dell'Informazione e Scienze
Matematiche



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Day 1 - 19th September 2018

- 08.45 - 09.45 Registration
- 09.45 - 10.00 Opening. *Simone Marinai: Message from IAPR*
- 10.00 - 10.50 Invited speaker: **Marco Gori**
What's Wrong With Computer Vision?
- 10.50 - 11.15 Coffee break
- 11.15 - 12.30 Session 1: Learning paradigms/algorithms
Abel Zacarias and Luís Alexandre
SeNA-CNN: Overcoming Catastrophic Forgetting in Convolutional Neural Networks by Selective Network Augmentation
Shigeo Abe
Effect of Equality Constraints to Unconstrained Large Margin Distribution Machines
Vincenzo Laveglia and Edmondo Trentin
A Refinement Algorithm for Deep Learning via Error-driven Propagation of Target Outputs
- 12.30 - 14.30 Lunch
- 14.30 - 15.45 Session 2: Feature-oriented approaches
Mohammadreza Amirian, Friedhelm Schwenker and Thilo Stadelmann
Trace and Detect Adversarial Attacks on CNNs using Feature Response Maps
Catuscia Palamidessi and Marco Romanelli
Feature selection with Rényi min-entropy
Ludwig Lausser, Robin Szekely, Viktor Kessler, Friedhelm Schwenker and Hans Kestler
Selecting Features from Foreign Classes
- 15.45 - 16.10 Coffee break
- 16.10 - 17.25 Session 3: Vision and image processing
Alessandro Rossi, Antonio Rizzo and Francesco Montefoschi
ATM Protection Using Embedded Deep Learning Solutions
Zahra Ziran and Simone Marinai
Object Detection in Floor Plan Images
Samuele Capobianco, Leonardo Scommegna and Simone Marinai
Historical Handwritten Document Segmentation by Using a Weighted Loss

 Springer



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Day 2 - 20th September 2018

10.00 - 10.50 Invited speaker: **Marcello Pelillo**
Hume-Nash Machines: Context-Aware Models of Learning and Recognition

10.50 - 11.15 Coffee break

11.15 - 12.30 Session 4: Probabilistic methods

Roghayeh Soleymani, Eric Granger and Giorgio Fumera

F-Measure Curves for Visualizing Classifier Performance with Imbalanced Data

Edmondo Trentin

Maximum-likelihood Estimation of Neural Mixture Densities: Model, Algorithm, and Preliminary Experimental Evaluation

Heinke Hihn, Sebastian Gottwald and Daniel A. Braun

Bounded Rational Decision-Making with Adaptive Neural Network Priors

12.30 - 14.30 Lunch

14.30 - 15.45 Session 5: Partially supervised learning

Paolo Andreini, Simone Bonechi, Monica Bianchini and Franco Scarselli

Generating Bounding Box Supervision for Semantic Segmentation with Deep Learning

Adrian T. Ruiz, Patrick Thiam, Friedhelm Schwenker and Günther Palm

A k-Nearest Neighbor Based Algorithm for Multi-Instance Multi-Label Active Learning

Alberto Rossi, Matteo Tiezzi, Giovanna Maria Dimitri, Monica Bianchini, Marco Maggini and Franco Scarselli

Inductive--Transductive Learning with Graph Neural Networks

15.45 - 16.15 Coffee break

16.15 - 22.30 Guided city tour and banquet



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Day 3 - 21st September 2018



09.30 - 10.20 IAPR invited speaker: **Thilo Stadelmann**
Deep Learning in the Wild



10.20 - 11.30 Poster session (program on next page)

10.50 - 11.15 Coffee break

11.30 - 12.45 Session 6: Other applications



**Andrea Zugarini, Jérémy Morvan, Stefano Melacci,
Stefan Knerr and Marco Gori**

*Combining Deep Learning and Symbolic Processing for
Extracting Knowledge from Raw Text*

Mohammad Hanafy, Mahmoud Khalil and Hazem Abbas
*Combining Classical and Deep Learning Methods for Twitter
Sentiment Analysis*

**Thilo Stadelmann, Sebastian Glinski-Haefeli,
Patrick Gerber and Oliver Dürr**

*Capturing Voice Prosody with RNNs for Improved Speaker
Clustering*

12.45

Lunch and workshop closing

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Day 3 - Poster session

Salvatore Mangano, Carlos Delgado, María Isabel Bernardos, Miguel Lallena and Juan José Rodríguez Vázquez

Convolutional Neural Network Methods for Reconstruction of Data of the Cherenkov Telescope Array



Baptiste Wicht, Andreas Fischer and Jean Hennebert

DLL: A Blazing Fast Deep Neural Network Library



Maxim Sharaev, Alexander Andreev, Alexey Artemov, Evgeny Burnaev, Ekaterina Kondratyeva, Svetlana Sushchinskaya, Irina Samotaeva, Vladislav Gaskin and Alexander Bernstein

Pattern Recognition Pipeline for Neuroimaging Data

Philipp Oberdiek, Matthias Rottmann and Hanno Gottschalk

Classification Uncertainty of Deep Neural Networks Based on Gradient Information



Volkmar Frinken, Satish Ravindran, Shriphani Palakodety, Guha Jayachandran and Nilesh Powar

Video and Audio Data Extraction for Retrieval, Ranking and Recapitulation (VADER3)

Benjamin Bruno Meier, Ismail Elezi, Mohammadreza Amirian, Oliver Dürr and Thilo Stadelmann

Learning Neural Models for End-to-End Clustering

Maxime Sazadaly, Pierre Pinchon, Arthur Fagot, Lionel Prevost and Myriam Maumy-Bertrand

Cascade of Ordinal Classification and Local Regression for Audio-based Affect Estimation

Taraggy Ghanim, Mahmoud Khalil and Hazem Abbas

PHoG Features and Kullback-Leibler Divergence based Ranking Method for Handwriting Recognition

Dmitry Smolyakov, Nadezda Sviridenko, Evgeny Burnaev and Evgeny Burikov

Anomaly Pattern Recognition with Privileged Information for Broken Sensor Detection

Pisit Nakjai and Tatpong Katanyukul

Automatic Hand Sign Recognition: Identify Unusuality Through Latent Cognizance

Alexander Kuleshov, Alexander Bernstein and Evgeny Burnaev

Manifold Learning Regression with Non-Stationary Kernels

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