1st International Conference on Deep Learning Theory and Applications (DeLTA 2020)

Online 8 - 10 May 2020

Editors:

Ana Fred Kurosh Madani

ISBN: 978-1-7138-4059-6

Printed from e-media with permission by:

Curran Associates, Inc. 57 Morehouse Lane Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright $\ \bigcirc \ (2020)$ by SCITEPRESS – Science and Technology Publications, Lda. All rights reserved.

Printed with permission by Curran Associates, Inc. (2021)

For permission requests, please contact SCITEPRESS – Science and Technology Publications, Lda. at the address below.

SCITEPRESS – Science and Technology Publications, Lda. Avenida de S. Francisco Xavier, Lote 7 Cv. C, 2900-616 Setúbal, Portugal

Phone: +351 265 520 185 Fax: +351 265520 186

info@scitepress.org

Additional copies of this publication are available from:

Curran Associates, Inc. 57 Morehouse Lane Red Hook, NY 12571 USA Phone: 845-758-0400

Fax: 845-758-2633

Email: curran@proceedings.com Web: www.proceedings.com

CONTENTS

INVITED SPEAKERS

KEYNOTE SPEAKERS	
Uncertainty Modeling within an End-to-end Framework for Food Image Analysis <i>Petia Radeva</i>	5
3D Scene Understanding from a Single Image Vincent Lepetit	7
PAPERS	
FULL PAPERS	
Nematode Identification using Artificial Neural Networks Jason Uhlemann, Oisin Cawley and Thomais Kakouli-Duarte	13
Deep Learning Residual-like Convolutional Neural Networks for Optic Disc Segmentation in Medical Retinal Images Amir Hossein Panahi, Reza Askari Moghadam and Kurosh Madani	23
Generation of Human Images with Clothing using Advanced Conditional Generative Adversarial Networks Sheela Raju Kurupathi, Pramod Murthy and Didier Stricker	30
Attention-based Text Recognition in the Wild Zhi-Chen Yan and Stephanie A. Yu	42
SHORT PAPERS	
Retinal Vessel Segmentation by Inception-like Convolutional Neural Networks Hadi Niknam Shirvan, Reza Askari Moghadam and Kurosh Madani	53
Data Augmentation for Semantic Segmentation in the Context of Carbon Fiber Defect Detection using Adversarial Learning Silvan Mertes, Andreas Margraf, Christoph Kommer, Steffen Geinitz and Elisabeth André	59
Real-time On-board Detection of Components and Faults in an Autonomous UAV System for Power Line Inspection Naeem Ayoub and Peter Schneider-Kamp	68
Visual Inspection of Collective Protection Equipment Conditions with Mobile Deep Learning Models Bruno Georgevich Ferreira, Bruno Gabriel Cavalcante Lima and Tiago Figueiredo Vieira	76
Technical Sound Event Classification Applying Recurrent and Convolutional Neural Networks Constantin Rieder, Markus Germann, Samuel Mezger and Klaus Peter Scherer	84
Accelerating Matrix Factorization by Overparameterization Pu Chen and Hung-Hsuan Chen	89
Multi-channel ConvNet Approach to Predict the Risk of in-Hospital Mortality for ICU Patients	98

Fabien Viton, Mahmoud Elbattah, Jean-Luc Guérin and Gilles Dequen

Using Conditional Generative Adversarial Networks to Boost the Performance of Machine Learning	
in Microbiome Datasets	103
Derek Reiman and Yang Dai	
Detection of Depression in Thai Social Media Messages using Deep Learning Boriharn Kumnunt and Ohm Sornil	111
AUTHOR INDEX	119