2018 International Conference on Artificial Intelligence Applications and Innovations (IC-AIAI 2018)

Nicosia, Cyprus
31 October – 2 November 2018

IEEE Catalog Number: CFP18S17-POD
ISBN: 978-1-7281-0413-3

Copyright © 2018 by the Institute of Electrical and Electronics Engineers, Inc.
All Rights Reserved

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

****** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number: CFP18S17-POD
ISBN (Print-On-Demand): 978-1-7281-0413-3
ISBN (Online): 978-1-7281-0412-6

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
E-mail: curran@proceedings.com
Web: www.proceedings.com

2018 International Conference on Artificial Intelligence Applications and Innovations (IC-AIAI)

IC-AIAI 2018

Table of Contents

IC-AIAI 2018 Preface vii
IC-AIAI 2018 Committees viii

Technical Papers

Conception and Development Program of National Technology Initiative Center for Artificial Intelligence at MIPT 3
Sergey Garichev (Moscow Institute of Physics and Technology) and Alexander Vedyakhin (Sberbank)

Approaches to Evaluating the Function of Prediction of Decentralized Applications 6
Maria Sigova (International Banking Institute), Igor Klioutchnikov (International Banking Institute), Anna Zatevakhina (International Banking Institute), and Oleg Klioutchnikov (International Banking Institute)

Development of Educational Projects on the Basis of Technological Platforms with Artificial Intelligence: The Experience of MIPT on the Use of HighVox-Platform 12
E. Blagodarny (Moscow Institute of Physics and Technology), A. Vedyakhin (Sberbank), and A. Raygorodsky (Moscow Institute of Physics and Technology)

The Task of Instance Segmentation of Mineral Grains in Digital Images of Rock Samples (Thin Sections) 18
A. Bukharev (MIPT Center for Engineering and Technology), S. Budennyy (MIPT Center for Engineering and Technology), O. Lokhanova (MIPT Center for Engineering and Technology), B. Belozerov (Gazpromneft Science and Technology Center), and E. Zhukovskaya (Gazpromneft Science and Technology Center)

Artificial Intelligence Image Recognition in Healthcare 24
Dmitriy Gavrilov (Moscow Institute of Physics and Technology), Alexander Melerzanov (Moscow Institute of Physics and Technology), Nikolay Schelkunov (Moscow Institute of Physics and Technology), and Artem Gorodilov (Moscow Institute of Physics and Technology)

Intellimetry as a Way to Ensure AI Trustworthiness 27
Sergey Garbuk (GOST R)

Uses of Artificial Intelligence in Health 31
Ed Godber (H-Labs London)

Neural Networks for Image and Video Compression 37
Artem Gorodilov (Moscow Institute of Physics and Technology), Dmitriy Gavrilov (Moscow Institute of Physics and Technology), and Dmitriy Schelkunov (Moscow Institute of Physics and Technology)

Lawyer's Intellectual Tool for Analysis of Legal Documents in Russian 42
A. Khasianov (Kazan Federal University), I. Alimova (Kazan Federal University), A. Marchenko (Kazan Federal University), G. Nurhambetova (Kazan Federal University), E. Tutubalina (Kazan Federal University), and D. Zuev (Kazan Federal University)

Objective Barriers to the Implementation of Blockchain Technology in the Financial Sector 47
Inna Kruglova (International Banking Institute) and Valeriy Dolbezhkin (International Banking Institute)

Formalizing AI System Parameters in Standardization of AI 51
Andrey Kuleshov (Common Fund for Commodities)

Application of Artificial Intelligence Systems in the Process of Crew Training 55
Andrey Kuritsyn (Yu.A. Gagarin Research & Test Cosmonaut Training Center), Maxim Kharlamov (Yu.A. Gagarin Research & Test Cosmonaut Training Center), Sergei Prokhorov (S.I. Vavilov Institute for the History of Science and Technology, RAS), and Dmitry Shcherbinin (S.I. Vavilov Institute for the History of Science and Technology, RAS)

Named Entity Recognition in Noisy Domains 60
Valentin Malykh (Moscow Institute of Physics and Technology) and Vladislav Lyalin (Moscow Institute of Physics and Technology)

Noise Robustness in Aspect Extraction Task 66
Valentin Malykh (Moscow Institute of Physics and Technology) and Taras Khakhulin (Skolkovo Institute of Science and Technology)

AI in Russia: Past and Present 70
Sergei Prokhorov (Moscow Institute of Physics and Technology & S.I. Vavilov Institute for the History of Science and Technology, RAS) and Dmitry Shcherbinin (S.I. Vavilov Institute for the History of Science and Technology, RAS)

Scalable Natural Language Understanding: From Scratch, On the Fly 73
Sergey Shumsky (Moscow Institute of Physics and Technology)

Well Logging Verification Using Machine Learning Algorithms 75
A. Tsanda (MIPT Center for Engineering and Technology), A. Bukharev (MIPT Center for Engineering and Technology), S. Budennyy (MIPT Center for Engineering and Technology), and A. Andrianova (Gazpromneft Science and Technology Center)

Author Index 79