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# **Advances in Data Mining, Machine Learning, and Computer Vision**

Proceedings of the 1<sup>st</sup> Masters Symposium  
MS-AMLV-2019

Lviv, 2019

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Ermolayev, V., Molchanovskyi, O., Prytula, Y. (eds.): Advances in Data Mining, Machine Learning, and Computer Vision. Proc. 1<sup>st</sup> Masters Symposium MS-AMLV- 2019, November 15-16, 2019, CEUR-WS.org, online

This volume represents the proceedings of the 1<sup>st</sup> Masters Symposium on Advances in Data Mining, Machine Learning, and Computer Vision (MS-AMLV-2019), held in Lviv, Ukraine, in November 2019. It comprises the abstracts of one keynote talk and 14 contributed papers that were carefully peer-reviewed and selected from 43 submissions. The volume is organized in three parts. Part I presents the keynote talks. Part II collects the contributed papers on computer vision. Part III focuses on the contributions in natural language text processing, mining, and knowledge extraction.

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## Preface

It is our pleasure to present you the proceedings of MS-AMLV-2019, the first edition of the Masters Symposium on Advances in Data Mining, Machine Learning, and Computer Vision, held in Lviv (Ukraine) on November 15-16, 2019. The symposium had been thought out as an open forum for Computer Science M.Sci. or Ph.D. students and their supervisors. The topical focus of the symposium is within the Data Science and Machine Learning landscape. In particular, it solicited contributions dealing with novel techniques, technologies and methodologies, based on the synergies in Data and Knowledge Mining, Machine Learning, Computer Vision and Augmented Reality, Natural Language Processing.

The Symposium proved to become a venue giving a good chance for young researchers and practitioners, both from academia and industry, to present and receive feedback on their M.Sci. or Ph.D. projects at an early stage. It collected in its program short position papers presenting thesis proposals or projects. The event was also successful in composing a good academic-industrial mix of talks, which became one of the stimuli for intensive professional discussions.

The Symposium was structured into two thematic tracks covering its topical scope. The papers presented during the first day were focused on the research in computer vision. The papers presented on the second day were in the areas of natural language text processing, text mining, and knowledge extraction from natural language texts. The program was complemented by two keynote talks given by experts in the relevant fields. The first keynote talk was delivered by Mykola Maksymenko, an R&D director at SoftServe, who spoke about the recent results of their team in **training deep neural networks by optimizing over hyper-parameters paths**. The second keynote talk was given by Kenneth Heafield, an associate professor and group leader focused on machine translation at the University of Edinburgh. He spoke about their recent achievements in improving the efficiency of machine translation that made it possible to meet the requirements of users.

Overall, MS-AMLV-2019 attracted 43 paper submissions. Out of these submissions, we have accepted: 13 high quality and most interesting position papers, with the acceptance rate of 30 percent.

The symposium would not have been possible without the support of many people. First of all, we would like to thank all the authors who submitted papers to MS-AMLV-2019 and thus demonstrated their interest in the research problems within our scope. We are very grateful to the members of our Program Committee for providing timely and thorough reviews and, also, for being cooperative in doing additional review work.

We would like to thank the local organizers of the conference whose devotion and efficiency made this first inaugural instance of MS-AMLV a very interesting and effective scientific forum for early carrier researchers.

November, 2019

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