## Introduction

The research papers included in this special issue, grew out from the 22<sup>nd</sup> EANN (Engineering Applications of Neural Networks) and 17th AIAI (Artificial Intelligence Applications and Innovations) Joint International Conference, that was held virtually (due to COVID), June 25th-June 27th, 2021. The joint conference received 196 sub-missions overall (113 in AIAI and 83 in EANN). Overall, ninety-four (94) papers were accepted as full, for presentation and publication in the conference proceedings published by Springer series, leading to an acceptance rate of near 47%. The authors of the papers considered to be the most innovative and original in terms of computing and information technologies were invited to submit "substantially extended and updated manuscripts with additional original computational materials based on their most recent research" for possible publication in this issue. Each submitted extended manuscript underwent through at least two cycles of the journal's rigorous review process, using the journal review form. They received between 5 and 6 reviews. The first five manuscripts included in this issue are a selection of representative articles dealing with some recent advances in this field. We hope that they can serve to highlight the exciting work conducted in this area of research and can be also helpful to inspire enthusiastic young minds to join the quest.

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