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Algorithms and Architectures for Parallel Processing

19th International Conference, ICA3PP 2019
Melbourne, VIC, Australia, December 9–11, 2019
Proceedings, Part II

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Preface

Welcome to the proceedings of the 19th International Conference on Algorithms and Architectures for Parallel Processing (ICA3PP 2019). ICA3PP is with the series of conferences started in 1995 that are devoted to algorithms and architectures for parallel processing.

The conference of ICA3PP 2019 will be organized by Swinburne University of Technology, Australia, and was held in Melbourne, Australia. The objective of ICA3PP 2019 was to bring together researchers and practitioners from academia, industry, and governments to advance the theories and technologies in parallel and distributed computing. ICA3PP 2019 follows the traditions of the previous successful ICA3PP conferences held in Hangzhou, Brisbane, Singapore, Melbourne, Hong Kong, Beijing, Cyprus, Taipei, Busan, Melbourne, Fukuoka, Vietri sul Mare, Dalian, Japan, Zhangjiajie, Granada, Helsinki, and Guangzhou.

ICA3PP focuses on two broad areas of parallel and distributed computing: architectures, algorithms, and networks, and systems and applications. This conference is now recognized as the main regular event of the world that is covering the many dimensions of parallel algorithms and architectures, encompassing fundamental theoretical approaches, practical experimental projects, and commercial components and systems. As applications of computing systems have permeated in every aspect of daily life, the power of computing system has become increasingly critical. This conference provides a forum for academics and practitioners from countries around the world to exchange ideas for improving the efficiency, performance, reliability, security, and interoperability of computing systems and applications.

ICA3PP 2019 attracted 251 high-quality research papers highlighting the foundational work that strives to push beyond the limits of existing technologies, including experimental efforts, innovative systems, and investigations that identify weaknesses in existing parallel processing technology. Each submission was reviewed by at least two experts in the relevant areas, based on their significance, novelty, technical quality, presentation, and practical impact. According to the review results, 73 full papers were selected to be presented at the conference, giving an acceptance rate of 29%. We also accepted 29 short papers. In addition to the paper presentations, the program of the conference included three keynote speeches and two invited talks from esteemed scholars in the area, namely: (1) Y. Thomas Hou from Virginia Tech (USA), talking about “GPU-Based Parallel Computing for Real-Time Optimization,” (2) Ying-Dar Lin from National Chiao Tung University (Taiwan), giving us a speech “5G Mobile Edge Computing: Research Roadmap of the H2020 5G-Coral Project,” (3) Wanlei Zhou from University of Technology Sydney (Australia), giving us a talk “AI Security: A Case in Dealing with Malicious Agents,” and (4) Hai Jin from Huazhong University of Science and Technology (China), giving us a talk “Evening Out the Stumbling Blocks for Today’s Blockchain Systems.” We were extremely honored to have had them as the conference keynote speakers and invited speakers.

ICA3PP 2019 was made possible by the behind-the-scene effort of selfless individuals and organizations who volunteered their time and energy to ensure the success of this conference. We thank all participants of the ICA3PP conference for their contribution. We hope that you will find the proceedings interesting and stimulating. It was a pleasure to organize and host the ICA3PP 2019 in Melbourne, Australia.

December 2019

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