Preface to the Special Topic on Computer Mathematics

CHEN Shaoshi · MOU Chenqi

DOI: 10.1007/s11424-023-3000-4
Received: 4 January 2023
© The Editorial Office of JSSC & Springer-Verlag GmbH Germany 2023

This special topic on Computer Mathematics of Journal of Systems Science & Complexity is the collection of 8 excellent papers presented at the 12th Congress of Computer Mathematics of Chinese Mathematical Society held in Guilin, China during June 4–7, 2021. To look back its successful convening now, this conference was truly a blessed one at the right timing, at the right place, and with the right people in the up-and-downs of COVID-19 epidemic.

Congress of Computer Mathematics of Chinese Mathematical Society is a conference series formally directed by the Professional Committee of Computer Mathematics in Chinese Mathematical Society, and over the years it has grown to the premier platform for the researchers in China to communicate the latest academic and industrial advances in computer mathematics. This 12th edition of the conference series was co-organized by School of Computer Science and Information Security, Guilin University of Electronic Technology and Key Laboratory of Mathematics Mechanization, Chinese Academy of Sciences in the city of Guilin, famous for its picturesque sceneries and hospitable natives. With the combination of right timing, place, and people, this conference drew over 330 researchers from domestic research institutes, universities, and enterprises, a new record for the number of registered participants in the series.

The 12th Congress of Computer Mathematics of Chinese Mathematical Society centered at the theme of computer mathematics and set up 6 special topics, namely symbolic computation, computational geometry, cryptography, artificial intelligence, combinatorics, and computer mathematics with applications. Three plenary talks were given by Qinghu Hou, professor at Tianjin University, Songcan Chen, professor at Nanjing University of Aeronautics and Astronautics, and Dongdai Lin, researcher at Institute of Information Engineering, Chinese Academy of Sciences, and 7 invited talks were given by young scholars Jin Huang, Rushi Lan, Zhicong Lin, Risheng Liu, Xiaolin Qin, Xiaoxian Tang, and Dabin Zheng from related areas of computer mathematics, accompanied by around 70 contributed talks on the latest advances in the
The success of this conference was certainly due to the concerted efforts of the Organizing Committee (special thanks to Prof. Guangxi Chen and its outstanding team), the Program Committee, all the speakers, reviewers, participants, and sponsors. We would like to take this chance to thank all of them for their selfless contributions.

Out of all the 77 submissions to the conference, eight papers (see [1–8]) of high quality were selected, after rigorous reviews for both the conference and the journal, in this special topic of *Journal of Systems Science & Complexity*. We would like to express our gratitude to all the authors for their contributions and to the corresponding editors of this special topic for their supports.

References

[1] Yu L J and Gao X S, Improve robustness and accuracy of deep neural network with $L_{2,\infty}$ normalization, *Journal of Systems Science & Complexity*, 2023, **36**(1): 3–28.

[2] Hu C F, Hu H, Lin H W, et al., Isogeometric analysis-based topological optimization for heterogeneous parametric porous structures, *Journal of Systems Science & Complexity*, 2023, **36**(1): 29–52.

[3] Ji Y, Wang M Y, Yu Y Y, et al., Curvature-based $r$-adaptive isogeometric analysis with injectivity-preserving multi-sided domain parameterization, *Journal of Systems Science & Complexity*, 2023, **36**(1): 53–76.

[4] Zheng X P, Lu D, Wang D K, et al., New results on the equivalence of bivariate polynomial matrices, *Journal of Systems Science & Complexity*, 2023, **36**(1): 77–95.

[5] Ma X R and Wang J, Nonlinear inverse relations of the bell polynomials via the Lagrange inversion formula (II), *Journal of Systems Science & Complexity*, 2023, **36**(1): 96–116.

[6] Xie M H Y and Zhang P B, The log-concavity of Kazhdan-Lusztig polynomials of uniform matroids, *Journal of Systems Science & Complexity*, 2023, **36**(1): 117–128.

[7] Ding J, Ke P H, Lin C L, et al., Ramp scheme based on CRT for polynomial ring over finite field, *Journal of Systems Science & Complexity*, 2023, **36**(1): 129–150.

[8] Liu J W, Wu T, and Li D M, Smith form of triangular multivariate polynomial matrix, *Journal of Systems Science & Complexity*, 2023, **36**(1): 151–164.