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Divyakant Agrawal · P. Krishna Reddy ·  
Mukesh Mohania · Anirban Mondal ·  
Vikram Goyal · Rage Uday Kiran (Eds.)

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# Database Systems for Advanced Applications

27th International Conference, DASFAA 2022  
Virtual Event, April 11–14, 2022  
Proceedings, Part III

3  
Part III

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# Database Systems for Advanced Applications


27th International Conference, DASFAA 2022  
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## General Chairs' Preface

On behalf of the Organizing Committee, it is our great pleasure to welcome you to the proceedings of the 27th International Conference on Database Systems for Advanced Applications (DASFAA 2022), which was held during April 11–14, 2022, in Hyderabad, India. The conference has returned to India for the second time after a gap of 14 years, moving from New Delhi in 2008 to Hyderabad in 2022. DASFAA has long established itself as one of the leading international conferences in database systems. We were expecting to welcome you in person and give you a feel of our renowned Indian hospitality. However, unfortunately, given the Omicron wave of COVID-19 and the pandemic circumstances, we had to move the conference to a fully online mode.

Our gratitude goes first and foremost to the researchers, who submitted their work to the DASFAA 2022 main conference, workshops, and the data mining contest. We thank them for their efforts in submitting the papers, as well as in preparing high-quality online presentation videos. It is our distinct honor that five eminent keynote speakers graced the conference: Sunita Sarawagi of IIT Bombay, India, Guoliang Li of Tsinghua University, China, Gautam Das of the University of Texas at Arlington, Ioana Manolescu of Inria and Institut Polytechnique de Paris, and Tirthankar Lahiri of the Oracle Corporation. Each of them is a leader of international renown in their respective areas, and their participation significantly enhanced the conference. The conference program was further enriched with a panel, five high-quality tutorials, and six workshops on cutting-edge topics.

We would like to express our sincere gratitude to the contributions of the Senior Program Committee (SPC) members, Program Committee (PC) members, and anonymous reviewers, led by the PC chairs, Arnab Bhattacharya (IIT Kanpur), Lee Mong Li Janice (National University of Singapore), and Divyakant Agrawal (University of California, Santa Barbara). It is through their untiring efforts that the conference had an excellent technical program. We are also thankful to the other chairs and Organizing Committee members: industry track chairs, Prasad M. Deshpande (Google), Daxin Jiang (Microsoft), and Rajasekar Krishnamurthy (Adobe); demo track chairs, Rajeev Gupta (Microsoft), Koichi Takeda (Nagoya University), and Ladjel Bellatreche (ENSMA); workshop chairs, Maya Ramanath (IIT Delhi), Wookey Lee (Inha University), and Sanjay Kumar Madria (Missouri Institute of Technology); tutorial chairs, P. Sreenivasa Kumar (IIT Madras), Jixue Liu (University of South Australia), and Takahiro Hara (Osaka university); panel chairs, Jayant Haritsa (Indian Institute of Science), Reynold Cheng (University of Hong Kong), and Georgia Koutrika (Athena Research Center); Ph.D. consortium chairs, Vikram Pudi (IIIT Hyderabad), Srinath Srinivasa (IIIT Bangalore), and Philippe Fournier-Viger (Harbin Institute of Technology); publicity chairs, Raj Sharma (Goldman Sachs), Jamshid Bagherzadeh Mohasefi (Urmia University), and Nazha Selmaoui-Folcher (University of New Caledonia); publication chairs, Vikram Goyal (IIIT Delhi), and R. Uday Kiran (University of Aizu); and registration/local arrangement chairs, Lini Thomas (IIIT Hyderabad), Satish Narayana Srirama (University of Hyderabad), Manish Singh (IIT Hyderabad), P. Radha Krishna (NIT Warangal), Sonali Agrawal (IIIT Allahabad), and V. Ravi (IDRBT).

We appreciate the hosting organization IIIT Hyderabad, which is celebrating its silver jubilee in 2022. We thank the researchers at the Data Sciences and Analytics Center (DSAC) and the Kohli Center on Intelligent Systems (KCIS) at IIIT Hyderabad for their support. We also thank the administration and staff of IIIT Hyderabad for their help. We thank Google for the sponsorship. We feel indebted to the DASFAA Steering Committee for its continuing guidance.

Finally, our sincere thanks go to all the participants and volunteers. There would be no conference without them. We hope all of you enjoy these DASFAA 2022 proceedings.

February 2022

P. Krishna Reddy  
Mukesh Mohania  
Anirban Mondal

## Program Chairs' Preface

It is our great pleasure to present the proceedings of the 27th International Conference on Database Systems for Advanced Applications (DASFAA 2022). DASFAA is a premier international forum for exchanging original research results and practical developments in the field of databases.

For the research track, we received 488 research submissions from across the world. We performed an initial screening of all submissions, leading to the desk rejection of 88 submissions due to violations of double-blind and page limit guidelines. For submissions entering the double-blind review process, each paper received at least three reviews from Program Committee (PC) members. Further, an assigned Senior Program Committee (SPC) member also led a discussion of the paper and reviews with the PC members. The PC co-chairs then considered the recommendations and meta-reviews from SPC members in making the final decisions. As a result, 72 submissions were accepted as full papers (acceptance ratio of 18%), and 76 submissions were accepted as short papers (acceptance ratio of 19%). For the industry track, 13 papers were accepted out of 36 submissions. Nine papers were accepted out of 16 submissions for the demo track. For the Ph.D. consortium, two papers were accepted out of three submissions. Four short research papers and one industry paper were withdrawn. The review process was supported by Microsoft's Conference Management Toolkit (CMT).

The conference was conducted in an online environment, with accepted papers presented via a pre-recorded video presentation with a live Q&A session. The conference program also featured five keynotes from distinguished researchers in the community, a panel, five high-quality tutorials, and six workshops on cutting-edge topics.

We wish to extend our sincere thanks to all SPC members, PC members, and external reviewers for their hard work in providing us with thoughtful and comprehensive reviews and recommendations. We especially thank the authors who submitted their papers to the conference. We hope that the readers of the proceedings find the content interesting, rewarding, and beneficial to their research.

March 2022

Arnab Bhattacharya  
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Divyakant Agrawal  
Prasad M. Deshpande  
Daxin Jiang  
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