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Advances in Spatial and Temporal Databases

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Proceedings

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Preface

This volume contains the proceedings of the 15th International Symposium on Spatial and Temporal Databases (SSTD 2017). Included are research contributions in the area of spatial and temporal data management and related computer science domains presented at SSTD 2017 in Arlington, VA, USA. The symposium brought together, for three days, researchers, practitioners, and developers for the presentation and discussion of current research on concepts, tools, and techniques related to spatial and temporal databases. SSTD 2017 was the 15th in a series of biannual events. Previous symposia were held in Santa Barbara (1989), Zurich (1991), Singapore (1993), Portland (1995), Berlin (1997), Hong Kong (1999), Los Angeles (2001), Santorini, Greece (2003), Angra dos Reis (2005), Boston (2007), Aalborg (2009), Minneapolis (2011), Munich (2013), and Hong Kong (2015).

Before 2001, the series was devoted solely to spatial database management, and was called The International Symposium on Spatial Databases. Starting in 2001, the scope was extended in order to also integrate the temporal dimension and accommodate spatial and temporal database management issues, owing to the increasing importance of research that considers spatial and temporal dimensions of data as complementary challenges.

This year the symposium received 90 submissions in total out of which 58 contributions were submitted as research papers including two industrial papers. All papers were reviewed by four of the 58 Program Committee members. At the end of a thorough process of reviews and discussions, 19 submissions were accepted as full research papers for presentation at the symposium. SSTD 2017 also continued several innovative topics that were successfully introduced in previous events. In addition to the research paper track, the conference hosted a demonstration track and a vision/challenge track. Demonstration and vision/challenge papers were solicited by separate calls for papers. While proposals for demonstrations had to illustrate running systems that showcase the applicability of interesting and solid research, the vision/challenge submissions had to discuss novel ideas that are likely to guide research in the near future and/or challenge prevailing assumptions. The Computing Research Association's Computing Community Consortium (CCC) sponsored awards in the form of travel grants for the top three papers under their CCC Blue Sky Ideas initiative. The submissions to the demo and vision/challenge track (19 demonstration submissions and 13 vision/challenge papers submissions) were evaluated by dedicated Program Committees (each paper was reviewed by at least three members). Finally, eight demo and five vision/challenge papers were selected for the conference program. We were also very fortunate to have had two accomplished researchers from academia and industry as keynote speakers opening the first two days of the conference.

This year SSTD also organized a panel where renowned members of academia, industry, and federal government organizations discussed current trending and promising future research topics on spatio-temporal database and related research

fields. Vivid discussions were inspired on topics such as smart cities, big spatial data systems, spatial crowdsourcing, spatial privacy, as well as insights from behind the scenes from a National Science Foundation program director.

In addition to the panel, SSTD 2017 initiated the Early Career Researcher Workshop as a new event under the scope of the conference aiming to help early-career researchers, e.g., junior faculty member and senior PhD students, in their professional development.

The success of SSTD 2017 was the result of a team effort. Special thanks go to many people for their dedication and hard work, in particular to the demo track chairs, Wei-Shinn Ku (Auburn University, USA), Agnes Voisard (Free University of Berlin), and Chengyang Zhang (Microsoft, USA), the industry track chair, Erik Hoel (ESRI, USA), and local arrangements chair, Nektaria Tryfona (College of Science, George Mason University, USA). Further special thanks go to our panel chairs, publicity chairs, sponsorship chairs, proceedings chairs, registration chairs, webmaster, and the organizers of the Junior Faculty Workshop. Naturally, we owe our gratitude to more people, and in particular we would like to thank the authors, irrespectively of whether their submissions were accepted or not, for supporting the symposium series and for sustaining the high quality of the submissions. We also want to express our thanks to the sponsors of SSTD 2017, HERE, Google, and the Computing Community Consortium (CCC) for their generous support of this event. Last but most definitely not least, we are very grateful to the members of the Program Committees (and the external reviewers) for their thorough and timely reviews.

Finally, these proceedings reflect the state of the art in the domain of spatiotemporal data management, and as such we believe they form a strong contribution to the related body of research and literature.

June 2017

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