

Preface

This proceedings volume contains revised versions of the papers presented at the First International Workshop on Mobility Analytics for Spatiotemporal and Social Data (MATES 2017), held in conjunction with the 43rd International Conference on Very Large Data Bases (VLDB 2017), in Munich, Germany, on September 1, 2017.

Mobility analytics is a timely topic owing to the ever-increasing number of diverse, real-life applications, ranging from social media to land, sea, and air surveillance systems, which produce massive amounts of streaming spatiotemporal data, whose acquisition, cleaning, representation, aggregation, processing, and analysis pose new challenges for the data management community. The aim of MATES is to bring together researchers and practitioners interested in developing data-intensive applications that analyze big spatiotemporal/societal data, in order to foster the exchange of new ideas on multidisciplinary real-world problems, propose innovative solutions, and stimulate further research in the area of big spatiotemporal/societal data management and analysis. The workshop intends to bridge the gap between researchers and domain experts, most importantly to raise awareness of real-world problems in critical domains which require novel data management solutions, tailored to addressing the specific needs of each domain.

The peer-review process put great emphasis on ensuring a high quality of accepted contributions. Every paper was reviewed by at least three Program Committee (PC) members. The MATES PC accepted six submissions (46%) as full papers and another two submissions (16%) as short papers out of a total of 13 submissions. After careful revision of accepted papers, based both on comments of reviewers and discussions during the workshop, the chairs decided to allocate the same maximum page length for all papers included in this volume.

Apart from the peer-reviewed papers that were presented at the workshop, the program included two keynote speeches, one from academia and one from the industrial sector. The first keynote — “Effective and Efficient Community Search” — was given by Dr. Reynold Cheng, Associate Professor of the Department of Computer Science at the University of Hong Kong. The second keynote — “How Data Analytics Enables Advanced AIS Applications” — was given by Ernest Batty, Technical Director of IMIS Global Limited. After the workshop, both keynote speakers were invited to submit a paper describing the research objectives and future challenges in relation with their talks, and these papers are included in this volume.

This volume is structured as follows: In the first part, we include the invited papers from the keynote speakers. Then, the research papers are grouped in thematic areas: The second part concerns “Social Networks Analytics and Applications,” while the third part addresses “Spatiotemporal Mobility Analytics.” In this way, the grouping of research papers reflects the two major foci of the workshop, namely, mobility analytics for social data and mobility analytics for spatiotemporal data.

The editors wish to thank the PC members for helping MATES put together a program of high-quality papers that provides an up-to-date overview of the area of mobility analytics for spatiotemporal and social data. In addition, the editors would like to thank all authors for submitting their work to MATES.

On a final note, we wish to mention that this workshop was partially supported by the European Union's Horizon 2020 research and innovation programme datAcron: Big Data Analytics for Time Critical Mobility Forecasting, under grant agreement number 687591, the CAS Pioneer Hundred Talents Program, and the MOE Key Laboratory of Machine Perception at Peking University under grant number K-2017-02.

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Christos Doulkeridis
George Vouros
Qiang Qu
Shuhui Wang



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