

Conference Report:
The 26th ACM SIGSPATIAL International Conference on
Advances in Geographic Information Systems
(ACM SIGSPATIAL 2018)
Seattle, Washington, USA
November 6—9, 2018

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This report describes the development and finalization of the 26th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM SIGSPATIAL 2018), held in Seattle, Washington, USA, November 6-9, 2018. The attendance for the 2018 conference was 414 (representing 29 countries), the first such event with more than 400 attendees. The conference was also notable for having 148 of the attendees from industry, exceeding the previous high of 100 attendees in 2015 (also in Seattle).

Historically, what is now the ACM SIGSPATIAL conference started as a series of workshops and symposia in 1993. Its aim was to promote the interdisciplinary discussions among researchers, developers, users, and practitioners and fostering research in all aspects of Geographic Information Systems – hence the original workshop acronym ACM GIS. The focus was on novel systems based on geospatial data and knowledge. It continued its mission of providing a forum for original research results, addressing conceptual, design, and implementation aspects of geospatial data ranging from applications, user interfaces and visualization, to data storage, query processing, indexing and data mining. The conference is now the premier annual event of the ACM Special Interest Group on Spatial Information (ACM SIGSPATIAL).

The technical program of the conference was decided in a two-stage process:

(1) Each submitted paper was first reviewed by at least three members of a carefully chosen program committee (PC) consisting of experts in the relevant fields. Our PC had a total of 112 volunteers from academia and industry, plus an additional 21 members who were designated as the Senior PC. The assignment of papers to reviewers followed a bidding stage, during which PC members were allowed to express ranked preferences regarding their willingness to review a particular submission. In addition to three reviewers from the PC, each paper was also assigned a designated Senior PC member who studied the reviews, discussed the merits of the submission with the reviewers, wrote a metareview, and formulated an accept/reject recommendation.

(2) Similar to 2017, we implemented a rebuttal phase where the authors received preliminary versions of the reviews and the meta-review, and were offered the opportunity to address the concerns raised therein by submitting a response. The reviews, meta-reviews, and accept/reject recommendations were then finalized, taking

into account the author responses. The selection of papers to include in the conference program was ultimately made by the PC Chairs. Certain papers that were not accepted for the conference, with the permission of the authors, were forwarded to the conferences Workshop Chairs to be considered for inclusion in relevant workshops co-located with SIGSPATIAL.

Papers were submitted and accepted in different categories. We received a total of 150 research submissions and 19 industrial experience and systems submissions. We accepted 38 of those as full 10-page research papers for oral presentation, resulting in an acceptance rate of 22.5%. We accepted an additional 40 submissions as poster presentations (38.2% cumulative acceptance rate), to be published as 4-page papers. We also received 24 demonstration submissions, of which we accepted 14 for live demonstrations, to be published as 4-page papers (acceptance rate of 58%). Finally, once again we encouraged the submission of papers describing visionary ideas. Of the 12 vision papers submitted, 4 were accepted for oral presentation (33.3% acceptance rate) and publication as 4-page papers. Our reviewers put in a significant amount of effort in reviewing the papers and our hope is that the reviews were beneficial even to those authors whose papers were not accepted.

Continuing the tradition, ACM SIGSPATIAL 2018 had a Cup programming contest, which focused on analyzing large spatial networks taken from the utility domain in order to find upstream features from a given set of starting points. The competition received 15 submissions and the teams totaled 42 members submitting formal entries. Three entries were selected as winners, and were additionally qualified for an invited paper, an oral presentation and award prizes during the banquet.

For the third time, after its debut in 2016, the conference had a Student Research Competition that aimed at providing a forum for undergraduate and graduate students to share their research results and exchange ideas with other students, judges, and conference attendees. This year, 7 papers (co)authored by graduate students were selected to enter the final round of the competition.

ACM SIGSPATIAL 2018 had two invited talks: Xin Chen (HERE Technologies) with a keynote presentation *HD Live Maps for Automated Driving: An AI Approach*, and Daniel Delling (Apple Maps) whose keynote addressed *Route Planning in Transportation from Research to Practice*.

The conference was expertly chaired by Erik Hoel (Esri, USA) and Farnoush Banaei-Kashani (University of Colorado, Denver, USA). It was preceded by 13 associated workshops managed by the Workshop Co-Chairs were John Krum (Microsoft, USA) and Mohamed Sarwat (Arizona State University, USA), in addition to the many respective individual workshops organizers.

Recreating and organizing such a vibrant forum from year to year takes tremendous efforts and collaboration among many dedicated individual. We are especially grateful to our PC, Senior PC and external reviewers, who generously and carefully reviewed the submissions and produced valuable feedback for both us and the authors. To produce the proceedings, we had the pleasure to work closely with two individuals who took a lot of the burden and did a great job Proceedings Co-Chairs Gabriel Ghinita (University of Massachusetts, USA) and Raymond Wong (Hong Kong University of Science and Technology, Hong Kong). We thank Chrysovalantis Anastasiou (University of Southern California, USA) and Xu Teng (Iowa State University, USA) who were extremely responsive as our Webmasters. We are also very thankful to the Publicity Co-Chairs: Muhammad Cheema (Monash University, Australia), Sangho Kim (Esri, USA), and Yanhua Li (Worcester Polytechnic Institute, USA). Furthermore we thank Martin Werner (Leibniz-University Hanover, Germany) and Xun Zhou (University of Iowa, USA) who served as Poster Co-Chairs, and extend our special thanks to Dev Oliver (Esri, USA), Bo Xu (HERE, USA), and Yuanyuan Pao (Lyft, USA) who organized the SIGSPATIAL Cup programming contest this year.

Many other fine individuals were involved and did a great job for the technical organization of the event and were in charge of many related activities. We thank Wei-Shinn Ku (Auburn University, USA) and Amr Magdy (University of California, Riverside, USA) who served as Treasurer Co-Chairs, along with our special thanks to Kyriakos Mouratidis (Singapore Management University) and Fusheng Wang (Stony Brook University, USA) who were in charge of organizing the SRC (Student Research Competition). We are indebted to Jing (David) Dai (Google, USA) and Zhenhui Li (Penn State University, USA) who served as Registrations Co-

Chairs. Local Arrangements Co-Chairs James Biagioni (CARMERA, USA), Ahmed Eldawy (University of California, Riverside, USA), and Hien To (Amazon, USA) are the ones to whom we are all indebted for the diligence and hard work that they put in to ensure that everything ran smoothly at the venue.

We are also thankful to the ACM SIGSPATIAL Executive Committee for their expert, sustaining guidance of the conference: Cyrus Shahabi (Chair, University of Southern California, USA), Goce Trajcevski (Vice-Chair, Iowa State University, USA), Egemen Tanin (Secretary, University of Melbourne, Australia), and John Krum (Treasurer, Microsoft Research, USA).

Very special thanks and recognitions are in order for our very generous corporate sponsors who this year contributed more than \$100,000 in sponsorship Amazon, Apple, and HERE (Platinum Sponsors), Esri, Lyft, and Uber (Silver Sponsors), Oracle (Bronze Sponsor), and Microsoft and IBM many of whom have supported this conference for multiple years. We also recognize and appreciation the work of Mark McKenney (Southern Illinois University Edwardsville, USA) and Chengyang Zhang (Amazon, USA) who were instrumental in getting these companies as our sponsors. We are also grateful for the publishing sponsorship by Springer Publishers (Bronze Publisher Sponsor).

A very distinct token of gratitude goes to the US National Science Foundation (NSF) for its institutional sponsorship enabling travel-grants for students. Additionally, we appreciate IBM and Esri who provided financial sponsorship for the SIGSPATIAL Cup and the awards for the winners. Last, but not the least, the top three papers out of the X accepted vision papers received an award from the Computing Research Associations Computing Community Consortium (CCC).

Every year, the conference highlights the most important advances in GIS and provides a forum for lively exchange of ideas among leading researchers and practitioners in the field. We are confident that you will find a similar value in this record of the conference. In conclusion, we would like to express once again our gratitude to all the authors who submitted papers, the members of the PC and the senior PC, the conference officers, and all the other individuals who contributed their expertise and time to make the conference possible.