

The Second ACM SIGSPATIAL PhD Workshop Report

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1 Summary

The ACM SIGSPATIAL Ph.D. Workshop is a forum where Ph.D. students present, discuss, and receive feedback on their research in a constructive atmosphere. The Workshop will be attended by professors, researchers and practitioners in the ACM SIGSPATIAL community, who will participate actively and contribute to the discussions. The workshop provided an opportunity for doctoral students to explore and develop their research interests in the broad areas addressed by the ACM SIGSPATIAL community. We invited PhD students to submit a summary of their dissertation work to share their work with students in a similar situation as well as senior researchers in the field. Submissions provided a clear problem definition, explain why it is important, survey related work, and summarize the new solutions that are pursued. Submissions also focused on describing the contribution they made in their doctoral dissertation. The strongest candidates were those who have a clear topic and research approach, and have made some progress, but who are not so far along that they can no longer make changes.

2 Program

This year, we accepted six papers to the PhD Workshop. The list of papers is as follows:

- Shrutilipi Bhattacharjee (University of Minnesota) “Prediction of Meteorological Parameters: A Semantic Kriging Approach”
- Zhe Jiang (University of Minnesota) “Learning Spatial Decision Trees for Land Cover Mapping”
- Jiaxin Ding (Stony Brook University) “Trajectory Mining, Representation and Privacy Protection”
- Salles Viana Gomes Magalhães (Rensselaer Polytechnic Institute) “An efficient algorithm for computing the exact overlay of triangulations”
- Benedict Budig (Universität Würzburg) “Efficient Algorithms and User Interaction for Metadata Extraction from Historical Maps”
- Logic Salmon (Naval Academy Research Lab) “A Holistic approach combining real-time and historical data for maritime traffic monitoring”

Authors got the chance to present their papers and get feedback on their dissertation topic from experienced researchers (from both academia and industry) in Geographic Information Systems and Spatial Data Analytics.

3 Keynote

The workshop featured a keynote speech by Professor Mario Nascimento (University of Alberta) entitled “Using the Wisdom of the Crowd in Route Planning”. The talk outlined a number of methods for extracting crowd-sourced geospatial data in order to compute routes that minimize an objective function that combines qualitative (i.e., popularity) and quantitative (e.g., distance) metrics. These methods are extracting information from travel logs and picture repositories and use it to construct an enriched road network. This network can subsequently be searched to obtain paths between different points that include points-of-interest with higher popularity, while incurring only a small additional spatial distance.

4 Panel

The workshop ended with a well-attended panel discussion on the topic “How to succeed in the business of PhD”. The panel included experts from industry (John Krumm, Microsoft Research) and academia (Lars Kulik, University of Melbourne; Gabriel Ghinita, Northeastern University; Mohamed Sarwat, Arizona State University). The panel addressed a range of issues, such as how to choose a thesis topic, how to disseminate your research results as well as how to start/manage a research group in academia and industry.