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Preface to IEEE VAST 2019 Conference Track and VAST Challenge

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IEEE VAST 2019 Conference Track and VAST Challenge

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This is the 14th edition of IEEE Visual Analytics Science and Technology (VAST). Begun in 2006 as an IEEE Symposium at VIS, it is now in its 10th year as an IEEE Conference. It continues to be the leading forum for Visual Analytics research, defined as the science of analytical reasoning supported by interactive visual interfaces. VAST represents research pushing the boundaries of the state of the art in theory and foundations of visual data analysis, techniques and algorithms, empirical and design studies, as well as systems and applications.

VAST in 2019 continues to feature its successful conference paper track, in addition to the TVCG paper track. The goal of this track is to increase the diversity of Visual Analytics applications and to better support participation of interdisciplinary researchers. It provides innovative advances and applications in Visual Analytics. The VAST 2019 Program Committee comprised 57 senior experts from the field. 170 complete submissions entered the two-stage review cycle, from which VAST eventually accepted 42 papers for the TVCG track, and 9 for the conference track. The conference track papers are published as part of the VIS USB proceedings, and submitted to the IEEE Digital Library for archival publishing. The accepted papers contribute interesting, timely ideas and results to the VAST 2019 conference sessions on Fairness and AI, Interactive Machine Learning, Text Analysis, Graphs, Evaluation and Theory, as well as Applications.

The VAST Challenge lets participants demonstrate innovative approaches to complex data analysis tasks using Visual Analytics. This year's challenge addressed three realistic but fictitious tasks, analyzing the impacts of a natural disaster. Participants were asked to combine data from fixed sensors and citizen scientists to identify areas in greatest need. This required strategies for fusing data from multiple sources, including sensors, social media, and mobile apps. This year's Challenge also asked participants to develop techniques for representing the inherent uncertainties in this data. The datasets and submissions are archived in the Visual Analytics Benchmark Repository (https://www.cs.umd.edu/hcil/varepository/), and papers for several submissions are published as part of the VIS USB proceedings. This year's submissions illustrate the power of combining machine learning and interactive visualization to gain insight into complex problems.