GeoSim 2019 Workshop Report
The 2nd ACM SIGSPATIAL International Workshop on Geospatial Simulation

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Space has long been acknowledged by researchers as a fundamental constraint which shapes our world. As technological changes have transformed the very concept of distance, the relative location and connectivity of geospatial phenomena have remained stubbornly significant in how systems function. At the same time, however, technology has allowed us to begin to bring tools like simulation to bear on our understanding of how such systems work. While previous generations of scientists and practitioners were unable to gather spatial data or to incorporate it into models at any meaningful scale, new methodologies and data sources are becoming increasingly available to researchers, developers, users, and practitioners. This flowering of different approaches is occurring simultaneously across many fields, and at every point in the research process.

The 2nd ACM SIGSPATIAL International Workshop on Geospatial Simulation was held in conjunction with 27th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems in Chicago, Illinois, USA. GeoSim 2019 brought together researchers and practitioners from a range of disciplines to disseminate their cutting-edge research in geospatial simulation. Similar to GeoSim'18[4], GeoSim'19 had 11 registered participants which was in the middle range of all workshops at ACM SIGSPATIAL 2019. In addition to these participants, at times the workshop had upwards of 25 participants ranging from academia (e.g. The University of Utah, The University of Tokyo, University College London, University of Illinois at Urbana-Champaign, Leibniz-University Hanover) to industry (e.g. Here, Amazon, AT&T).

This half-day workshop comprised two dense sessions. The workshop featured one invited talk with six oral presentations. Dr. Andrew Crooks kicked off the first session with welcome and opening remarks, having brief time for participants to introduce each others. In the first session, as a proxy of the authors, Xiqi Fei from George Mason University presented work of AT&T Labs-Research entitled "*SimCT: Spatial Simulation of Urban Evolution to Test Resilience of 5G Cellular Networks*" [2] which proposed a plausible scenario in cellular network industry. Terence Lines from University College London presented the paper entitled "*Simulating and Modeling the Signal Attenuation of Wireless Local Area Network for Indoor Positioning*" [5] which demonstrated how to apply simulation to WLAN for indoor positioning. Dr. Alexander Hohl presented his work "*Spatiotemporal Simulation: Local Ripley's K Function Parameterizes Adaptive Kernel Density Estimation*" [1].

In the second session, Dr. Sarah Wise gave an invited talk entitled "*Geospatial Simulation, Three Ways*" which is on applied geospatial simulation help to advance this mission and orient the program. Shaofeng Yang from the University of Tokyo presented his work under the title "*Firm-level Behavior Control after Large-scale Urban Flooding Using Multi-agent Deep Reinforcement Learning*" [7]. Two papers leveraging CyberGIS-Jupyter were presented by Rebecca Vandewalle and Dr. Jeon-Young Kang from the University of Illinois at Urbana-Champaign under the titles "*Integrating CyberGIS-Jupyter and Spatial Agent-based Modelling to Eval-*

Figure 1: Group Photo of GeoSim 2019 Attendees

uate Emergency Evacuation Time" [6] and "*CyberGIS-Jupyter for Spatially Explicit Agent-based Modeling: A Case Study on Influenza Transmission*" [3], respectively.

Based on the submitted papers received, the best paper award was given to Shaofeng Yang, Yoshiki Ogawa, Koji Ikeuchi, Yuki Akiyama, Ryosuke Shibasaki from The University of Tokyo with their paper entitled: "*Firm-level Behavior Control after Large-scale Urban Flooding Using Multi-agent Deep Reinforcement Learning.*"

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