

# Preface

Cities around the world aspire to provide superior quality of life to their citizens. Furthermore, many are also seen as centers of unique opportunities, like business, fashion, entertainment and governance, for their citizens. Cities want to retain such preeminent positions or reposition themselves for newer opportunities. But, resources needed to reach and sustain such aspirations are decreasing while the expectations continue to rise from an increasing population-base. A positive trend of the internet age is that more data than even before is open and accessible, including from governments at all levels of jurisdiction, which enables rigorous analysis.

The scientific community has responded to city challenges by promoting the computational sustainability vision where resources consumed by a city, such as water, energy, land, food, and air, can be monitored to know the accurate present picture and then optimized for resource efficiency without degrading quality of services it provides - traffic movement, water availability, sanitation, public safety, and so on. Industry has joined the vision with a "smart" or "intelligent" prefix for cyber-physical systems which involve sensing the data through physical instruments, interconnecting and integrating them from multiple sources and analyzing them for intelligent patterns. This effort needs access to city data, semantic models to abstract city domains as well as interconnect them so that advanced applications can be built by rest of the world. We will like to call cities that enable such capabilities as, "semantic cities."

In a semantic city, available resources are harnessed safely, sustainably and efficiently to achieve positive, measurable economic and societal outcomes. Enabling city information as a utility, through a robust (expressive, dynamic, scalable) and (critically) a sustainable technology and socially synergistic ecosystem could drive significant benefits and opportunities. Data (and then information and knowledge) from people, systems, and things is the single most scalable resource available to city stakeholders to reach the objective of semantic cities.

Two major trends are supporting semantic cities — open data and semantic web. "Open data is the idea that data should be accessible from everyone to use and republish as they wish, without restrictions from copyright, patents or other mechanisms of control." A number of cities and governments have made their data publicly available, prominent being London (UK), Chicago (USA), Washington DC (USA), Dublin (Ireland). Semantic web as the technology to interconnect heterogeneous data has matured and it is being increasingly used in the form of linked open data and formal ontologies. Thus, a playfield for more AI research-driven technologies for cities has emerged, for example, scalable, efficient, robust, optimal, AI techniques.

In this context, the aims of the workshop are to (1) Draw the attention of the AI community to the research challenges and opportunities in semantic cities. (2) Draw the attention on the multidisciplinary dimension and its impact on semantic cities such as transportation, energy, water management. (3) Identify unique issues of this domain and what new techniques may be needed. As example, since governments and citizens are involved data security and privacy are first-class concerns (4) Promoting more cities to become semantic cities (5) Elaborating a (semantic data) benchmark for testing AI techniques on semantic cities. (6) Provide a platform for sharing best-practices and discussion.

We have a rich program highlighting how to build semantic cities and provide societal benefits. It consists of regular and short papers, demonstrations, invited talks and a panel. We hope the workshop helps energize the participants as well as the community.

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Organizers