WUF12 SESSION

Computational urban science and artificial intelligence - Trends, opportunities and challenges

06 November 2024, 11 a.m. – 12.30 p.m.
World Urban Forum (WUF12), Cairo, Egypt
Voices from Cities – room F
Organised by: University of Hong Kong, World Urban Planning Education Network, Carnegie Endowment for International Peace and CIDOB's Global Cities Programme, with the support of Barcelona City Council and the Cities Coalition for Digital Rights (CC4DR)

This session is jointly organized by the University of Hong Kong, the World Urban Planning Education Network, and CIDOB's (Barcelona Center for International Affairs) Global Cities Programme, with the support of Carnegie Endowment for International Peace, Cities Coalition for Digital Rights and Barcelona City Council.

Cities generate vast amounts of data from sensors, social media, mobile apps and administrative records. This urban data holds immense potential for understanding patterns, modelling scenarios and informing policies to address urban challenges. Unlocking insights requires advanced computational techniques at the intersection of data science, urban planning and public policy. At the same time, many cities are piloting AI tools to improve services and tackle issues like congestion and climate change, concerns persist about potential impacts on rights and social risks. There is an urgent need for cities to implement AI ethically.

The focus of this event is twofold. First, it explores computational urban science, which integrates cutting-edge analytics, machine learning and visualisation to drive evidence-based decision-making for sustainable development. Participants will examine how novel approaches like deep learning, agent-based modelling and urban informatics can revolutionise urban planning, governance and management across transport, housing, energy and infrastructure. Through keynotes, panel discussions and demonstrations, attendees will gain insights into computational urban science applications. These include simulating urban growth, integrating diverse data sources for environmental monitoring and enhancing systems thinking.

Second, the event will address the ethical deployment of urban AI. Experts, practitioners and policymakers will engage in discussions about the challenges and opportunities in implementing AI at city and regional levels. The goal is to promote ethical AI systems that are sustainable, fair, accountable, transparent and aligned with democratic values. This session will survey how cities are contributing to the current state of affairs, first by analysing common challenges local governments face when aiming to implement ethically secure AI systems. The event will then delve into case studies and best practices from the most comprehensive openly accessible repository of ethical urban AI initiatives worldwide, GOUAI's Atlas of Urban AI (led by CIDOB and supported by the Barcelona City Council and Cities Coalition for Digital Rights, among others), and the work of the Cities Coalition for Digital Rights, a network of cities helping each other in the greenfield of digital rights based policy-making. Policies, strategies and concrete projects will be presented, providing an overview of general trends in urban AI evolution.

This event unites innovators from data science, urban policy, civil society and technology, fostering idea exchange. It explores computational urban science trends, discusses opportunities and addresses challenges. Participants will shape guidelines for responsible urban AI and data-driven approaches optimising sustainability while upholding ethics and equity. By examining potential and pitfalls, the event positions computational urban science as a tool for achieving Sustainable Development Goals and liveable cities.

Programme

11.00 – 11.05   **Welcome**
Tianren Yang, Assistant Professor and Assistant Head, The University of Hong Kong

11.05 – 11.15   **Mapping urban AI: best practices and governance tools for ethical urban AI**
Alexandra Vidal D'oleo, Research Fellow and Project Manager, Global Cities Programme, CIDOB (Barcelona Centre for International Affairs)

11.15 – 11.25   **City networks for digital rights policymaking**
Livia Schaeffer Nonose, Technology and Innovation Specialist, UN-Habitat/UNITAC (representing the Cities Coalition for Digital Rights)

11.25 – 11.35   **AI and disaster risk management**
Faduma Ali, Associate Programme Specialist, Disaster Risk Reduction, UNESCO

11.35 – 11.45   **Computational urban science for better cities and better living**
Siegfried Wu, Professor and Academician, World Urban Planning Education Network

11.45 – 12.25   **Panel discussion**

Alexandra Vidal, Research Fellow and Project Manager, Global Cities Programme, CIDOB (Barcelona Center for International Affairs)
Livia Schaeffer Nonose, Technology and Innovation Specialist, UN-Habitat/UNITAC (representing the Cities Coalition for Digital Rights)
Faduma Ali, Associate Programme Specialist, Disaster Risk Reduction, UNESCO
Siegfried Wu, Professor and Academician, World Urban Planning Education Network

Moderator: **Tianren Yang**, Assistant Professor and Assistant Head, The University of Hong Kong

12.25 – 12.30   **Concluding remarks**
Alexandra Vidal D'oleo, Research Fellow and Project Manager, Global Cities Programme, CIDOB (Barcelona Centre for International Affairs)

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