

Special Issue on  
**AI and Cognitive Spectrum Management  
for Internet of Things in Smart Cities**

# CALL FOR PAPERS

In the backdrop of ambitious efforts by most countries in embracing smart cities to reinvent and enhance every aspect of their social and economic activities, Internet of Things (IoT) and Artificial Intelligence (AI) technologies are two important enabling technologies which are aggressively and innovatively exploited and adopted to achieve the following objectives: automation, data-centric decision making, disrupting existing operating models and enhanced efficiency.

In a typical smart city implementation, IoT devices are connected via wireless networks to a city control centre, where sensing data from IoT devices are input to support some AI-enabled decision making process, which in turn will lead to timely responses to meet the operational needs of the people. The AI-enabled IoT applications in smart cities create many scientific and engineering challenges. This is especially challenging for the case of mobile IoT devices which may intelligently adapt to multiple heterogeneous wireless urban networks around the city. In addition, when massive numbers of wireless IoT devices are being deployed, cognitive spectrum management is critical to satisfy the explosive broadband requirements of IoT applications. The cognitive capability of IoT devices to detect and sense complicated spectrum and network circumstances is significant and deserves deeper investigation by the research community. Such attributes of smart cities call for a deep fusion of AI, cognitive spectrum management and IoT technology.

The aim of this Special Issue is to collate original research with a focus on how IoT and AI technologies work together to realise the intelligence of smart cities. Review articles discussing the current state of the art are also welcomed.

Potential topics include but are not limited to the following:

- ▶ AI-enabled smart city architecture and modelling
- ▶ AI and deep learning approaches for IoT in smart cities
- ▶ Intelligent sensing for IoT in smart cities
- ▶ Cognitive spectrum management for IoT in smart cities
- ▶ Cognitive spectrum access for IoT in smart cities
- ▶ Cognitive security for IoT in smart cities
- ▶ Machine learning and cognitive computing for IoT in smart cities
- ▶ Intelligent positioning for IoT in smart cities
- ▶ Collaborative AI-enabled IoT operation and maintenance in smart cities
- ▶ Novel network and communication protocol for AI-enabled IoT

Authors can submit their manuscripts through the Manuscript Tracking System at <https://review.hindawi.com/submit?specialIssue=328364>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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