Full Name (English):	Robert Kuo-Chung LIN	
Affiliated Institution and Title (English):	Dr. Robert Kuo-Chung LIN, AI Research Scientist and Head AI of CCAI, Certis Grop, Singapore	

Biography
(Please provide in paragraph form within 500 words.)

I am a computer engineering Ph.D., who previously served as a professor at the National University of Technology and Design(Singapore) and as a member of the IEET International Accreditation Committee for Engineering Education in China, Taiwan. currently a leading artificial intelligence scientist. To led the development of 13 successful AI applications to enhance physical for major projects. My life goal is to drive artificial intelligence to create a better life for humanity and to integrate ontology knowledge engineering into business processes to generate revenue and share profits.

Speech Title (English):

Integrating ontology and knowledge graph to enhance Vision Transformer which to reduce false alarm rates in AI camera clusters of Smart City.

Speech Abstract
(Please provide in paragraph form within 500 words.)

This report presents a solutions to new problems arising after the implementation of smart city applications in Singapore. It utilizes an ontology-based knowledge map output to enhance the new Vision Transformer framework(ViT), meeting the practical operational needs of smart city security control centers (including traffic control centers, shopping malls, large exhibition centers, subway stations, government buildings, etc.). First, the trust level generated by the VIT model is filtered by experts to produce high-quality training data. This high-quality training data is used to generate an ontology-based knowledge graph and output expert knowledge ontology. These expert insights into IoT information related to environment, devices, time, and purpose are added to the original VIT-embedded tokens. After fine-tuning, a new model is generated for inference and prediction. The new model increases the prediction trust level from 94.3% to over 98.5% and filters out 70% of false alarms. Results can reduce manpower requirements and operation and maintenance costs, making it an effective and successful smart city management solution.