Crowd-AI Sensing Based Traffic Analysis for Ho Chi Minh City Planning Simulation

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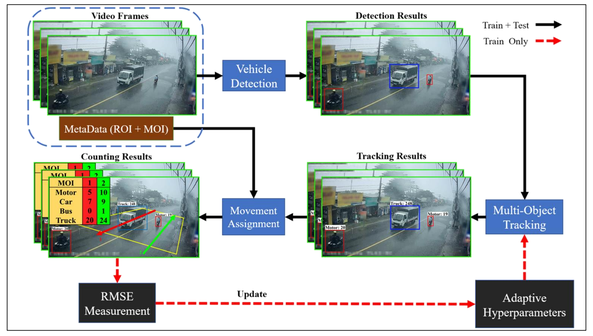
Problems - Ho Chi Minh City (HCMC) needs resources to solve infrastructure problems. In addition, monitoring staff watch traffic activities from thousands of cameras installed on streets in HCMC.

Intellectual Merits - The intellectual merits include the novelty of combining analyzed data via computer vision to feed into a simulator for city planning. We apply state-of-the-art computer vision algorithms to analyze the traffic. The analyzed data later is used for the city planning simulator.

Project Activities – We trained AI models to analyze the traffic videos in HCMC. In addition, we developed a traffic simulator with the analyzed data. Regarding publications, we published 27 papers (15 journal articles, 10 conference papers, and 2 workshop papers). We showcased our project to the Ho Chi Minh government officials.



Broader Impact - The project will advance the computer vision research field by providing new solutions for traffic analysis. The simulator will aid the city authorities in HCMC to seek drastic improvement to the existing infrastructure.

Sustainability - The collected data and the computational model developed from this project will be used for Ho Chi Minh City and other cities in Asia. In addition, the outcomes of this project can be used in the US side.

Next steps – We plan to adapt our trained AI models to other cities in Vietnam and U.S. where traffic, congestion, and urban infrastructure challenges can benefit from AI.