

Toward Smart Cities: Manila

***Workshop in AI Technology, Applications and Innovation for Digital Cities
SCSE 2019***

27th March 2019



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A Little Background Info



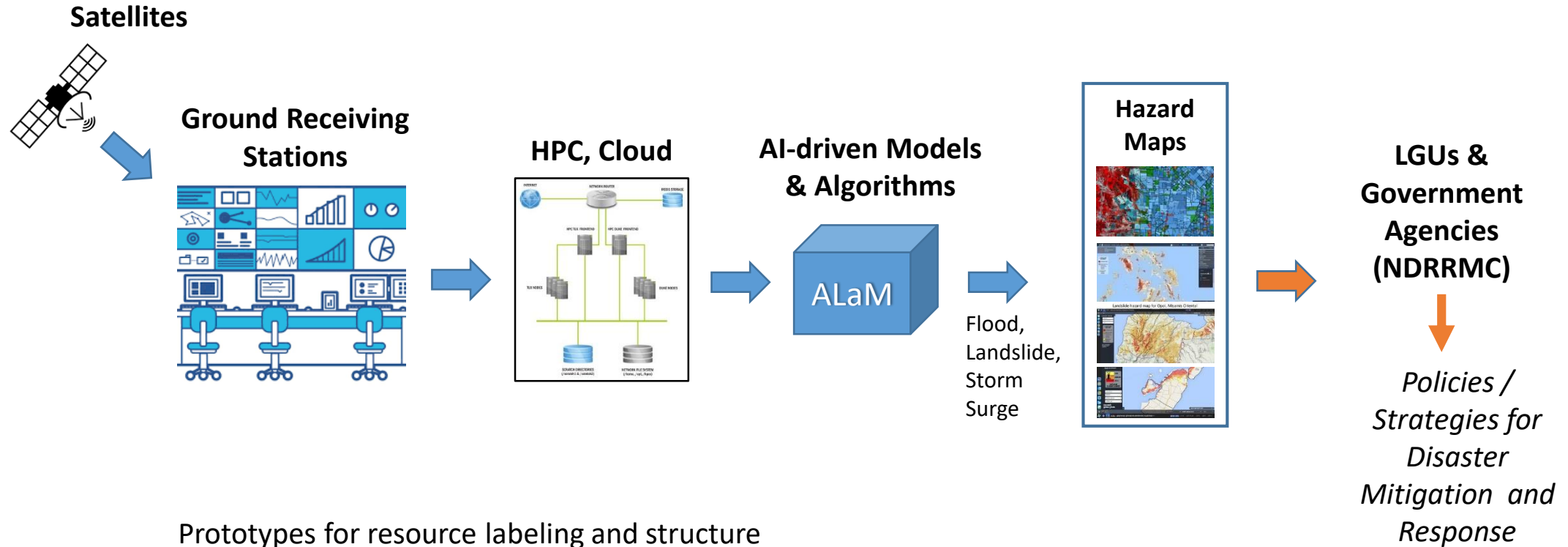
Metro Manila: 16 cities, 1 municipality

- Population & Area: ~12.9M, ~620 km²
- Connectivity: SMS, LTE/4G, WiFi/Wired
- Sensors: CCTV, meteorological, “remote”





Towards Smart City Disaster Management



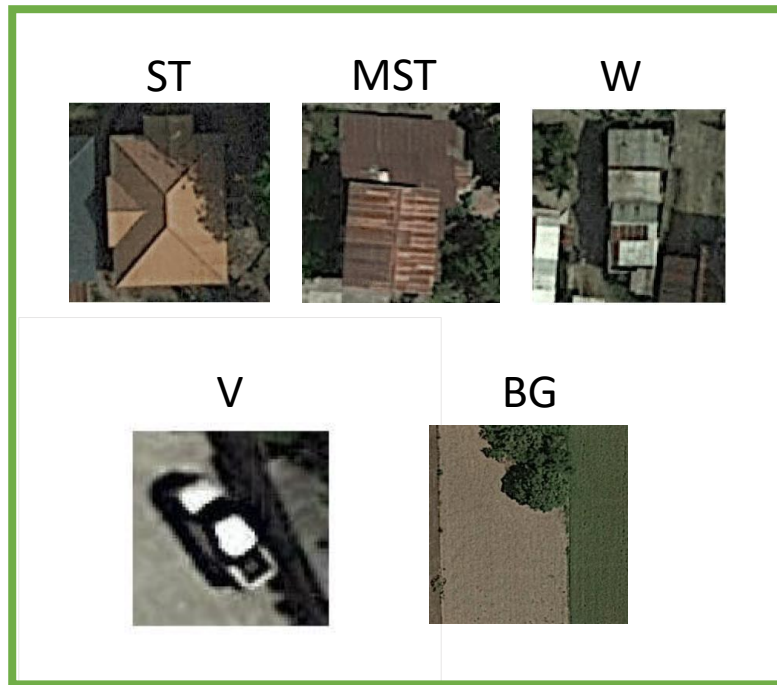
Prototypes for resource labeling and structure classification have been implemented.



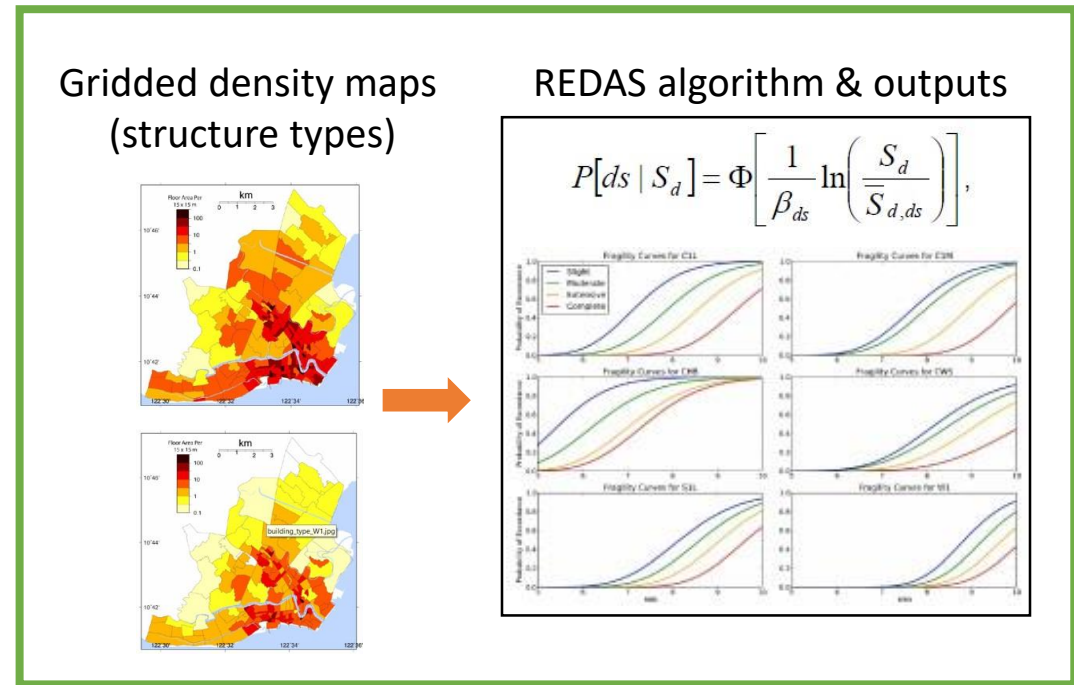


Structure Type Detection for Earthquake Damage Assessment (Proof-of-Concept)

Structure type detection from satellite images



Earthquake damage assessment (PHIVOLCS-REDAS)





Detecting and Classifying Structures

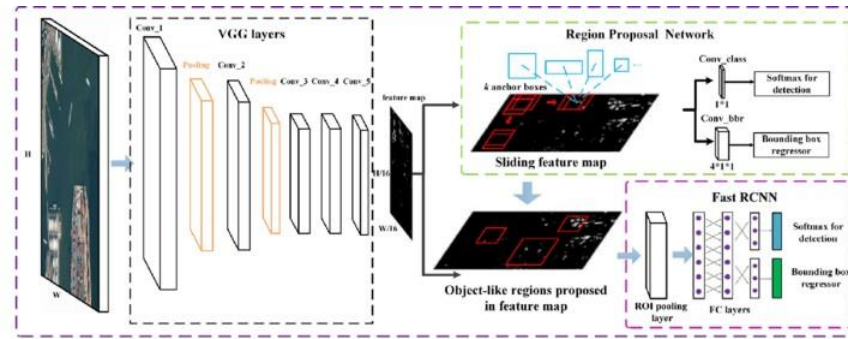
Deep Learning method to “box-in” classified objects in an image

Input



Satellite image (RGB)

Deep Learning Model



Output

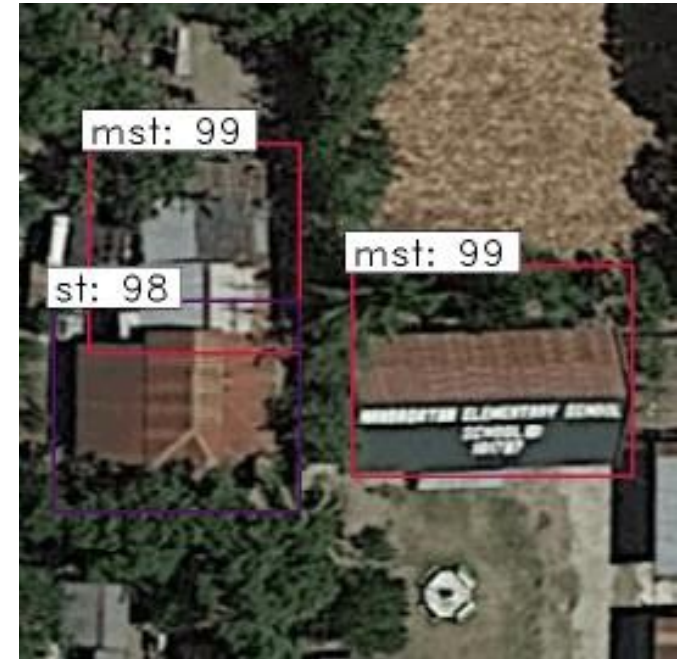


Detected structure types





Sample Results



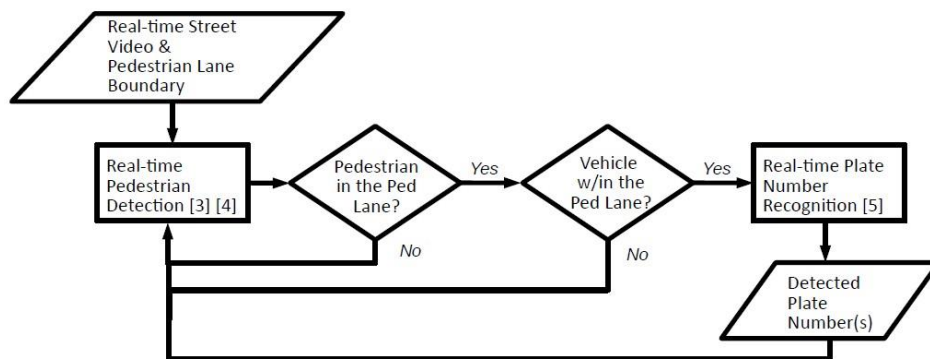


ASTI Pedestrian & Vehicle Detection



Features:

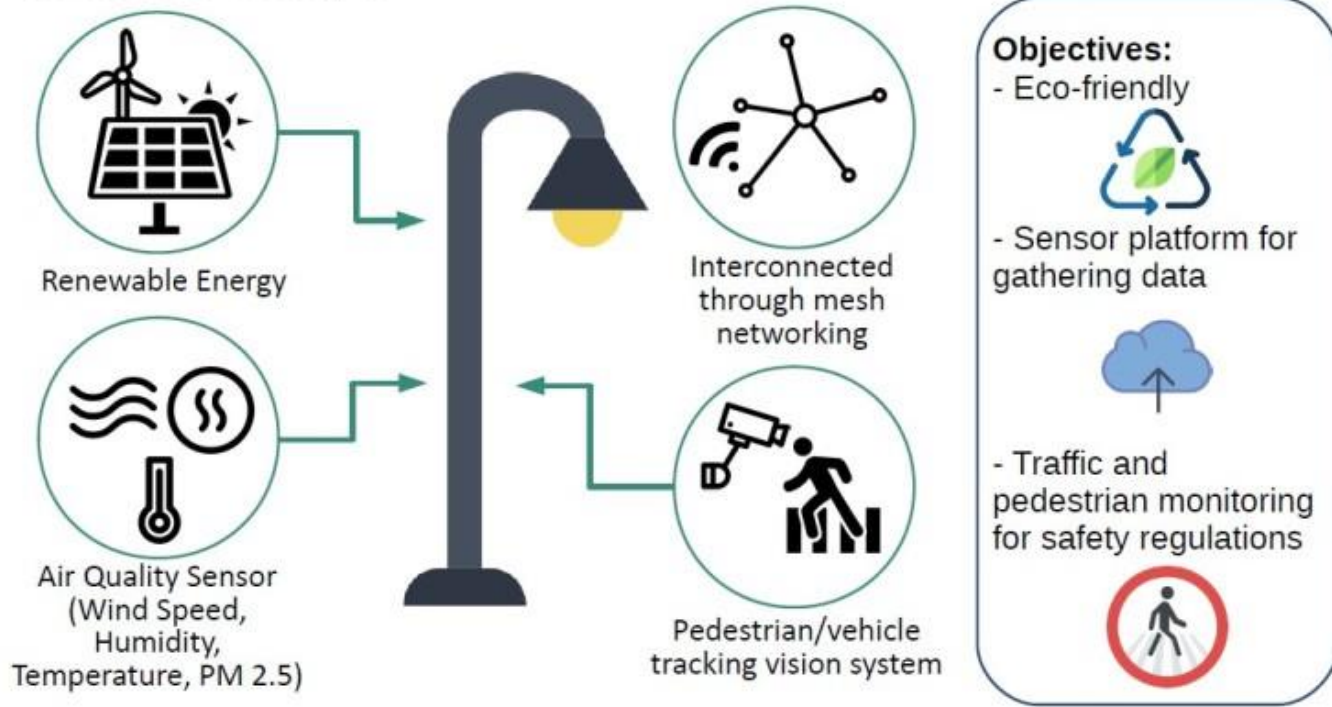
- initial goal is to detect people jaywalking and vehicles over-speeding and not stopping to give way to pedestrians (violation of RA 4136)
- uses deep learning
- solar-powered with battery storage (off-grid)
- can be extended to a bigger project on urban traffic monitoring and management





ASTI Smart Streetlight

Smart Streetlight



Features:

- solar-powered with battery storage (off-grid)
- integrated environmental sensing (temp, humidity, air quality, etc.)
- with energy conservation mechanism (full brightness when a person is detected, else default low brightness)
- IoT-based network



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End of Presentation

THANK YOU!

