Pyramid Probabilistic Content Reconciliation and Prioritization for V2V Communications
ABSTRACT

• In this paper, we propose PYRAMID, a multi-layer probabilistic abstraction framework, to efficiently abstract and approximate contents with different granularity.

• Using the multi-layer Pyramid data structures, a vehicle is able to quickly get an impression of the contents on the other vehicle before the costly massive content exchange process starts.

• Particularly, the coarse-granularity layer estimates the contribution from potential transaction partners so that tasks could be prioritized accordingly.
EXISTING SYSTEM

• Emerging vehicle-to-vehicle communication technologies, such as Dedicated Short Range Communications, offer unique opportunities to realize wireless peer-to-peer systems for vehicles.

• A critical component in a vehicular peer-to-peer system is an efficient content reconciliation mechanism, which guides two communicating vehicles to match their interests, prioritize task execution, and ensure redundant contents not to be exchanged.
PROPOSED SYSTEM

• PYRAMID abstraction provides a probabilistic representation of contents with different granularity.
• Using PYRAMID abstraction, two communicating vehicles should exchange sketches and summaries of content items before engaging costly content exchange process.
• Our in-lab experiments re-veal that our enhanced Z-Smallest Sketch is indeed the best option for coarse-granularity sketches, while Bloom Filter is a reasonable fine-granularity summary solution for membership tests.
HARDWARE REQUIREMENTS

• Processor - Intel core i3
• RAM - 2B
• Hard Disk - 20 GB
SOFTWARE REQUIREMENTS

- Operating System: LINUX
- Tool: Network Simulator-2
- Front End: OTCL (Object Oriented Tool Command Language)
REFERENCE

[1] DSRC (Dedicated Short Range Communications), https://www.fcc.gov/wireless=bureau divisions=mobility division=dedicated short range communications dsrd service


