

**Title:** Coalition Situational Understanding Facilitated By Vector Symbolic Architecture

**Tasks:** BPP4.2 & BPP5.2

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**Abstract:**

The problem of coalition situational understanding (CSU) involves the utilisation of distributed sensors and services that are maintained by multiple partner organisations to build a picture of the current state of the world and predict future states.

For decision makers, this often will be presented as an interface that accepts and answers queries - offering decision support for the user. Behind this interface, the correct chains of sensors and services must be formed to answer these queries accurately and efficiently. By forming these chains autonomously, the system can be more dynamic - answering questions without requiring the manual engineering of a new pipeline, ultimately allowing for a wider array of queries to be handled and granting greater robustness to individual service failure.

In this demo, we take prior work that tackles an applied CSU problem of traffic monitoring and show that the proposed solution can be facilitated by work that uses vector symbolic representations for the distributed resources to automatically construct abstract service pipelines and perform discovery of appropriate service instances.