

# **STMDI: Spatial and Temporal Modeling for Decision Intelligence**

(Code: uvtp7)

## **Goal:**

More than 74% of the data can be categorized as spatial or/and temporal data, which means that the data are spatially or/and temporally correlated with well-known domains such as smart city, mobility, manufacturing, and so on. (1) Spatial data analysis learns the geospatial, geographic, cross-sectional, or network information with related applications such as urban planning, geology, and earth observation. (2) Temporal data analysis, also known as time-series analysis, learns the temporal trend and information with known applications such as demand prediction, price prediction, traffic prediction, or production prediction. (3) Spatiotemporal data analysis, as its name means, aims to capture the complex and spatiotemporal correlations.

How to capture the complex spatial and temporal correlation is the core of this domain. Methods ranging from statistical learning to deep learning are encouraged to better discover and formulate the spatiotemporal correlation, thus further improving the accuracy, efficiency, and interpretability of various related tasks, such as prediction, optimization, anomaly detection, structure learning, and other spatial/temporal decision intelligence related tasks.

## **Topics:**

- Geospatial Data Mining
- Temporal / Time Series Analysis
- Functional Data Analysis
- Tensor Models
- Sequence Models
- Graphical Models
- Deep Learning for Spatial and/or Temporal Data
- Self-supervised Learning for Spatial and/or Temporal Data
- Agent-based Decision for Spatial/Temporal Data
- Smart City

## **Contact the lead organizer:**

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