Multi-modal Time Series Analysis

Background

Challenges, Our Motivations, Preliminaries, *etc.*

Data, Methods & Applications

Multi-modal Time Series Datas

1. **Modalities: Time Series, Text, Image, Tabular, Graph, *etc.***
2. **Scope, Existing Datasets, Characteristics, Domain, *etc.***

Taxonomy of Multi-modal *Time Series* Methods

1. **Interaction Stage (Input, Intermediate, Output)**
2. **Interaction Strategy (Fusion, Alignment, Transference)**
3. **Specific Methods (Concatenate, Attention, Contrastive, Gating, *etc.*)**

Domains & Tasks

1. **General, Finance, Healthcare, Traffic, Environment, *etc.***
2. **Forecasting, Classification, Causal Discovery, Retrieval, *etc.***

Future Research Directions

Reasoning, Decision Making, Generalization, Contextual Noise, Bias & Ethics