Daily Paper Summary - 0206, 2026

Paper 1: TSBOW: Traffic Surveillance Benchmark for Occluded Vehicles Under Various Weather Conditions (http://arxiv.org/abs/2602.05414v1)

Paper Information

- **Authors**: Ngoc Doan-Minh Huynh; Duong Nguyen-Ngoc Tran; Long Hoang Pham; Tai Huu-Phuong Tran; Hyung-Joon Jeon; Huy-Hung Nguyen; Duong Khac Vu; Hyung-Min Jeon; Son Hong Phan; Quoc Pham-Nam Ho; Chi Dai Tran; Trinh Le Ba Khanh; Jae Wook Jeon
- **Affiliations**: N/A
- **arXiv Link**: http://arxiv.org/abs/2602.05414v1 (http://arxiv.org/abs/2602.05414v1)
- **PDF Link**: https://arxiv.org/pdf/2602.05414v1 (https://arxiv.org/pdf/2602.05414v1)
- **Code Repository**: https://github.com/SKKUAutoLab/TSBOW
- **Relevance Score**: 67.0
- **Relevance Reason**: Heuristic rank: include_hits=1, field_hits=4, exclude_hits=0.

Problem Addressed

Derived from abstract in fallback mode.

Approach

Global warming has intensified the frequency and severity of extreme weather events, which degrade CCTV signal and video quality while disrupting traffic flow, thereby increasing traffic accident rates. Existing datasets, often limited to light haze, rain, and snow, fail to capture extreme weather conditions. To address this gap, this study introduces the Traffic Surveillance B...

Methodological Novelty

Fallback mode: infer novelty from abstract wording.

Empirical Novelty

Fallback mode: infer empirical evidence from abstract wording.

Summary for Communication

- This paper targets: TSBOW: Traffic Surveillance Benchmark for Occluded Vehicles Under Various Weather Conditions.
- It focuses on traffic engineering and AI-related modeling challenges.

- Core approach is summarized from abstract: Global warming has intensified the frequency and severity of extreme weather events, which degrade CCTV signal and video quality while disrupting traffic flow, thereby increasing traffic accident rates. Existing datasets, often limited to light haze, rain, and snow, fail to capture extreme weather conditions. To address this gap, this study introduces the Traffic Surveillance B...
- The key contribution is judged from method and experiments in the abstract.

Paper 2: PlanTRansformer: Unified Prediction and Planning with Goal-conditioned Transformer (http://arxiv.org/abs/2602.03376v1)

Paper Information

- **Authors**: Constantin Selzer; Fabina B. Flohr
- **Affiliations**: N/A
- **arXiv Link**: http://arxiv.org/abs/2602.03376v1 (http://arxiv.org/abs/2602.03376v1)
- **PDF Link**: https://arxiv.org/pdf/2602.03376v1 (https://arxiv.org/pdf/2602.03376v1)
- **Code Repository**: https://github.com/SelzerConst/PlanTRansformer
- **Relevance Score**: 67.0
- **Relevance Reason**: Heuristic rank: include_hits=1, field_hits=4, exclude_hits=0.

Problem Addressed

Derived from abstract in fallback mode.

Approach

Trajectory prediction and planning are fundamental yet disconnected components in autonomous driving. Prediction models forecast surrounding agent motion under unknown intentions, producing multimodal distributions, while planning assumes known ego objectives and generates deterministic trajectories. This mismatch creates a critical bottleneck: prediction lacks supervision for ...

Methodological Novelty

Fallback mode: infer novelty from abstract wording.

Empirical Novelty

Fallback mode: infer empirical evidence from abstract wording.

Summary for Communication

- This paper targets: PlanTRansformer: Unified Prediction and Planning with Goal-conditioned Transformer.

- It focuses on traffic engineering and AI-related modeling challenges.
- Core approach is summarized from abstract: Trajectory prediction and planning are fundamental yet disconnected components in autonomous driving. Prediction models forecast surrounding agent motion under unknown intentions, producing multimodal distributions, while planning assumes known ego objectives and generates deterministic trajectories. This mismatch creates a critical bottleneck: prediction lacks supervision for ...
- The key contribution is judged from method and experiments in the abstract.

Paper 3: PIMCST: Physics-Informed Multi-Phase Consensus and Spatio-Temporal Few-Shot Learning for Traffic Flow Forecasting (http://arxiv.org/abs/2602.01936v1)

Paper Information

- **Authors**: Abdul Joseph Fofanah; Lian Wen; David Chen
- **Affiliations**: N/A
- **arXiv Link**: http://arxiv.org/abs/2602.01936v1 (http://arxiv.org/abs/2602.01936v1)
- **PDF Link**: https://arxiv.org/pdf/2602.01936v1 (https://arxiv.org/pdf/2602.01936v1)
- **Code Repository**: https://github.com/afofanah/MCPST
- **Relevance Score**: 67.0
- **Relevance Reason**: Heuristic rank: include_hits=1, field_hits=4, exclude_hits=0.

Problem Addressed

Derived from abstract in fallback mode.

Approach

Accurate traffic flow prediction remains a fundamental challenge in intelligent transportation systems, particularly in cross-domain, data-scarce scenarios where limited historical data hinders model training and generalisation. The complex spatio-temporal dependencies and nonlinear dynamics of urban mobility networks further complicate few-shot learning across different cities...

Methodological Novelty

Fallback mode: infer novelty from abstract wording.

Empirical Novelty

Fallback mode: infer empirical evidence from abstract wording.

Summary for Communication

- This paper targets: PIMCST: Physics-Informed Multi-Phase Consensus and Spatio-Temporal Few-Shot Learning for Traffic Flow Forecasting.
- It focuses on traffic engineering and AI-related modeling challenges.
- Core approach is summarized from abstract: Accurate traffic flow prediction remains a fundamental challenge in intelligent transportation systems, particularly in cross-domain, data-scarce scenarios where limited historical data hinders model training and generalisation. The complex spatio-temporal dependencies and nonlinear dynamics of urban mobility networks further complicate few-shot learning across different cities...
- The key contribution is judged from method and experiments in the abstract.