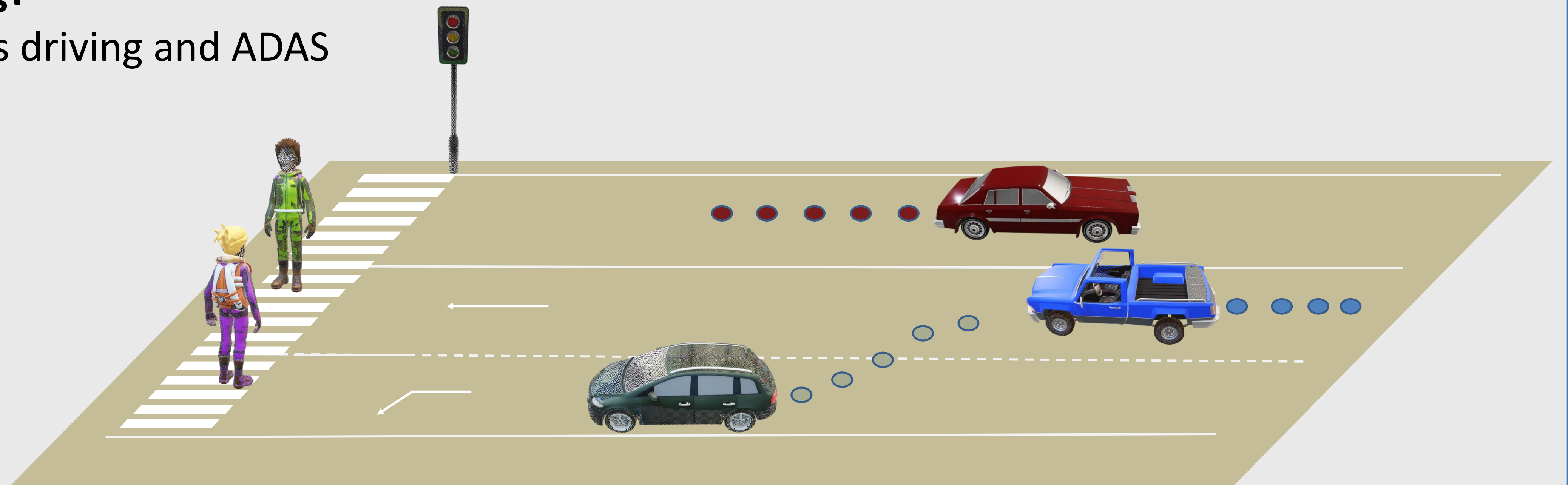


## Trajectory Prediction in Movement Planning

### Where is the Road User going?

- Required for autonomous driving and ADAS
- Increased safety



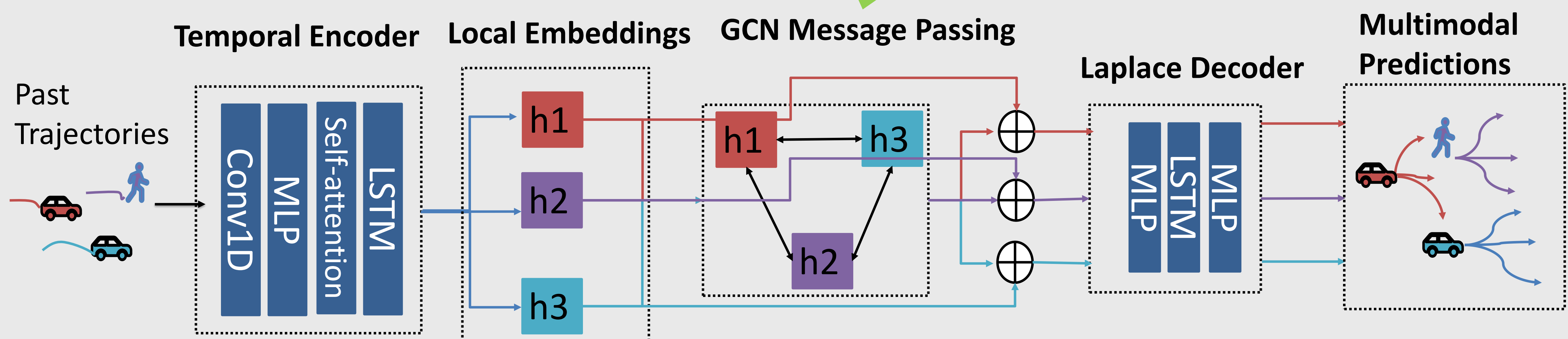
## Multi-Agent Trajectory Prediction Algorithm

### Input

- Past trajectories of each traffic participant

### Our Prediction Algorithm [1]

- Encodes past trajectories
- Models interaction of multiple agents via Graph Convolution Network (GCN)
- Decodes features via Laplace decoder



### Output

- Multi-modal predictions for each agent

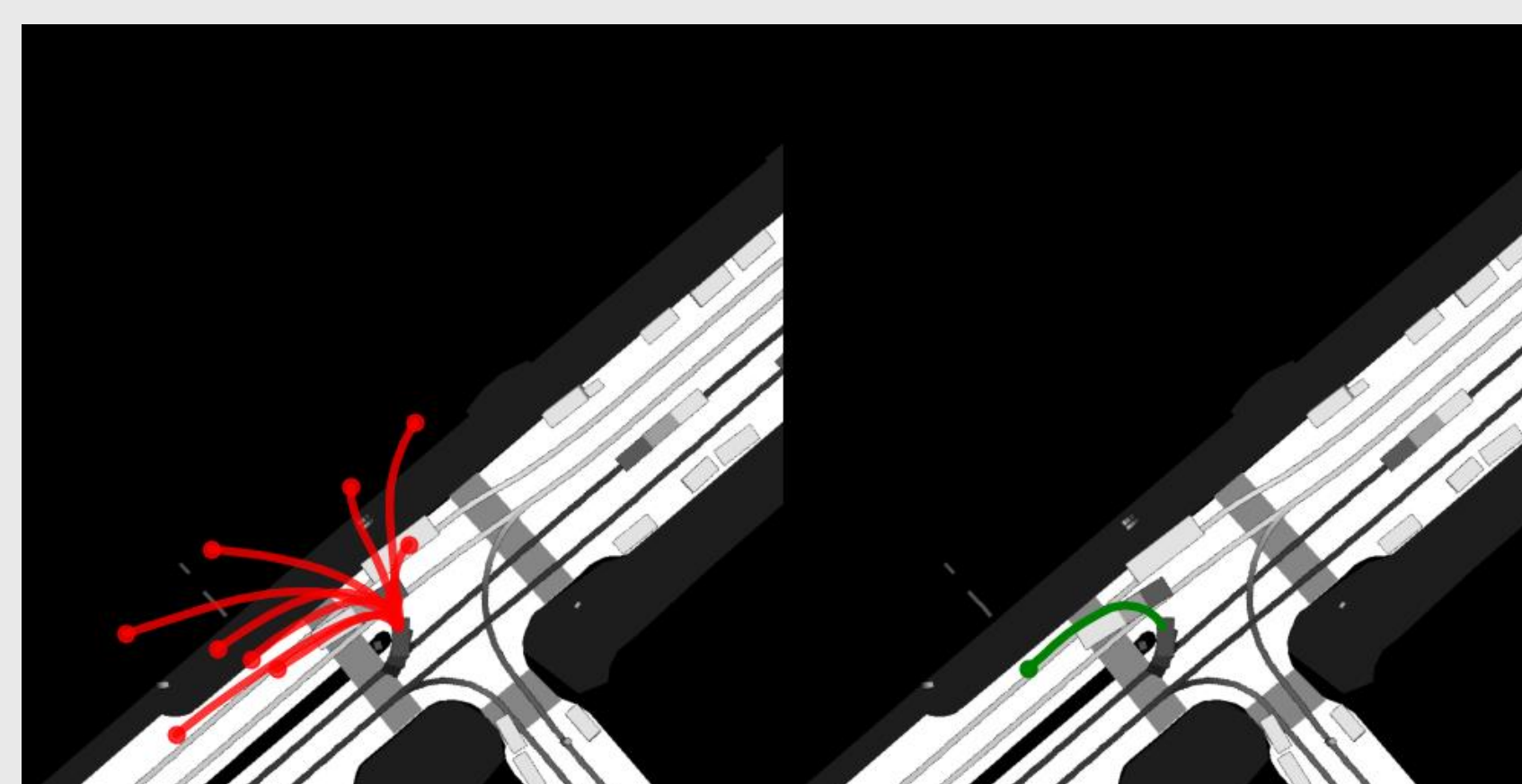
### Key Advantages

- State-of-the-art performance with efficient network architecture
- Decreased inference time, making it ready for realtime applications

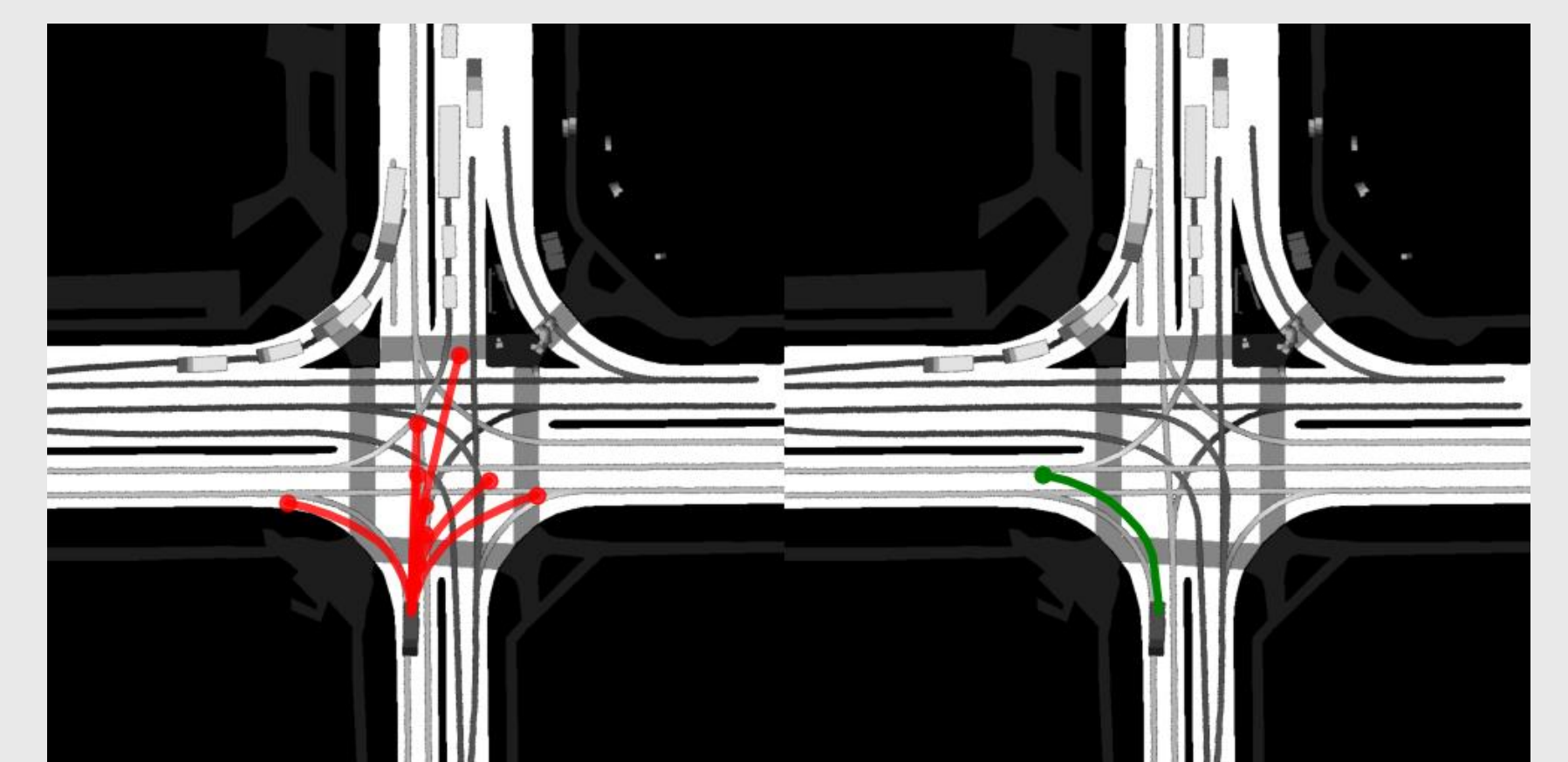
## Challenging Scenarios

### Results

- Our model predicts multiple, diverse, and realistic future trajectories
- Challenging scenarios, e.g., U turn, are handled by our model



Our Prediction      Ground-Truth  
**Scene 1: U turn**



Our Prediction      Ground-Truth  
**Scene 2: Left turn**

[1] Cheng, H., Liu, M., Chen, L., Broszio, H., Sester, M., & Yang, M. Y. (2022). GATraj: A Graph-and Attention-based Multi-Agent Trajectory Prediction Model. *arXiv preprint arXiv:2209.07857*, code: <https://github.com/mengmengliu1998/GATraj>