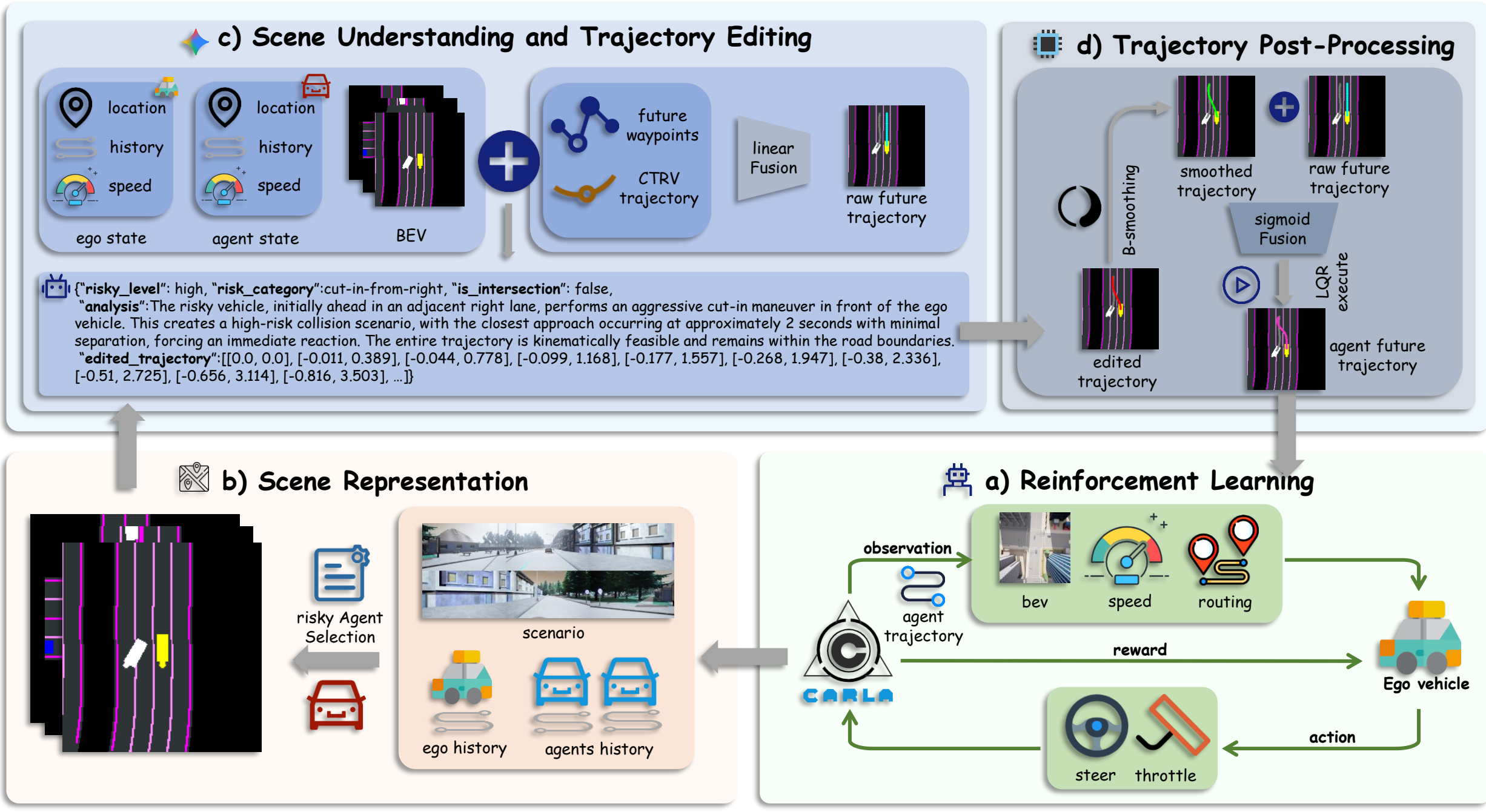
c) Scene Understanding and Trajectory Editing
location
history
speed
ego state
location
history
speed
agent state
BEV
future waypoints
CTRV trajectory
linear Fusion
raw future trajectory
{"risky_level": high, "risk_category":cut-in-from-right, "is_intersection": false,
"analysis":The risky vehicle, initially ahead in an adjacent right lane, performs an aggressive cut-in maneuver in front of the ego vehicle. This creates a high-risk collision scenario, with the closest approach occurring at approximately 2 seconds with minimal separation, forcing an immediate reaction. The entire trajectory is kinematically feasible and remains within the road boundaries.
"edited_trajectory":[[0.0, 0.0], [-0.011, 0.389], [-0.044, 0.778], [-0.099, 1.168], [-0.177, 1.557], [-0.268, 1.947], [-0.38, 2.336], [-0.51, 2.725], [-0.656, 3.114], [-0.816, 3.503], ...]}
d) Trajectory Post-Processing
B-smoothing
smoothed trajectory
raw future trajectory
sigmoid Fusion
LQR execute
edited trajectory
agent future trajectory
b) Scene Representation
risky Agent Selection
scenario
ego history
agents history
a) Reinforcement Learning
observation
agent trajectory
bev
speed
routing
reward
Ego vehicle
action
steer
throttle
CARLA