

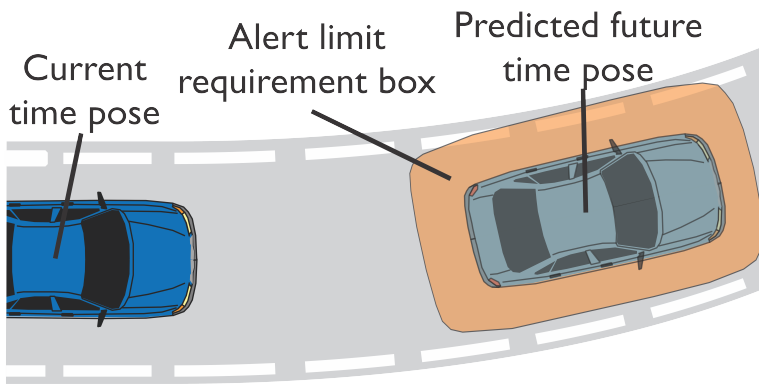
NRI: Receding Horizon Integrity-A New Navigation Safety Methodology for Co-Robotic Passenger Vehicles



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Challenge

- Evaluate and guarantee localization integrity, a measure of trust in sensor information, valid even in the presence of undetected faults



Solution

- Build on analytical methods used in aviation
- Quantifiable, sensor- and platform-independent

Scientific Impact

- High-integrity sensor measurement error and fault models for non-GPS sensors
- Analytical methods to quantify the safety risk of feature extraction and data association algorithms
- Multi-sensor pose estimators and integrity monitors to evaluate the impact of undetected sensor faults on safety risk

Broader Impact

