

Allstate Updates: CARLA and Scenario Generation

February 9, 2021 — Robert Moss

- CARLA running on Windows machine
- Working through TestPilot CARLA demo (might have to switch to Linux)
- CARLA Scenario Runner
 - Several implemented taken from [NHTSA pre-crash scenario typology](#)
 - Control loss, lane change, obstacle detection, intersections, etc.
 - https://carla-scenariorunner.readthedocs.io/en/latest/list_of_scenarios/

Allstate Updates: Risk Metrics

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- **Probability estimation of failure:**
 - “Given all simulation, how many resulted in failures?”
- **Highest likelihood of failure(s)**
 - Current AST objective/output
- **Severity of risk:**
 - Based on distance/rate metrics
 - Impulse measure (integral of force over time) from CARLA collision detection
- **Reachability analysis (Karen)**
 - Could define near-miss
- **Conditional value-at-risk (CVaR)**
 - Requires distribution over failures