

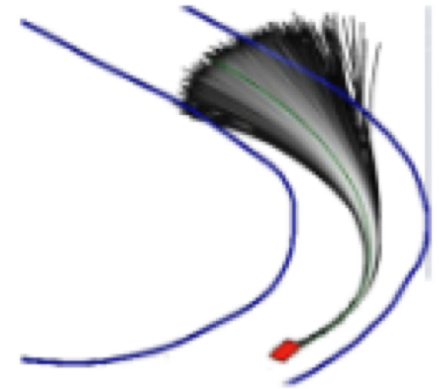
InfoVis Project Pitch

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Model Predictive Path Integral(MPPI)

Fig. 1 Trajectory Sampling [1]



- Trajectory Sampling
 - GPU for sampling
 - Vehicle model for correctness
- Evaluation
 - Pre-defined cost map
 - Penalty heuristics
- Integral
 - Softmax Function

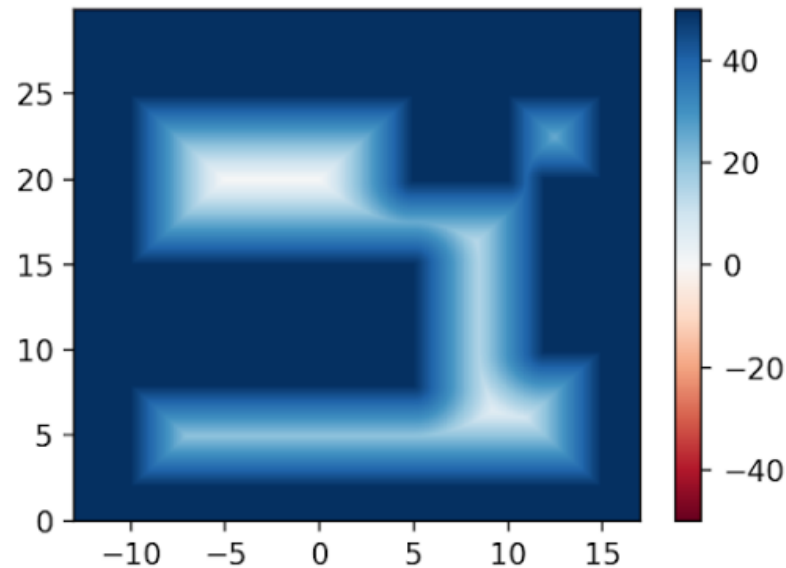


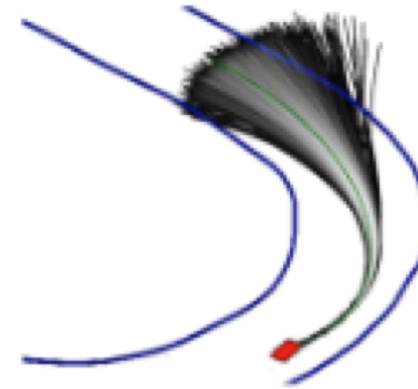
Fig. 2 Cost Map



For the Project

- Interactive Animation
 - Cost of trajectories at each point
- Trajectory Clustering
- Cost Throughout a Simulation

Fig. 1 Trajectory Sampling [1]



Reference

- [1] AutoRally: An Open Platform for Aggressive Autonomous Driving. Brian Goldfain, Paul Drews, Changxi You, Matthew Barulic, Orlin Velez, Panagiotis Tsiotras, James M. Rehg. *Control Systems Magazine (CSM)*, 2019.

