Motion Memory: Leveraging Past Experiences To Accelerate Future Motion Planning

Dibyendu Das, Yuanjie Lu, Erion Plaku, and Xuesu Xiao

George Mason University

- Avoids unnecessary and repetitive replanning when facing similar future planning problems

- Augments existing past experiences with hallucinated planning problems

- Utilizes representation learning to memorize existing problem solutions

- Integrates with different motion planners in both closed-box and open-box manner

- Reduces future planning time by up to 89%