Assignments for Meeting on Feb. 9, 2021 (1/2)

- Read Chapters 14.2 and 14.4.1–14.4.2 in LaValle, S. M., *Planning Algorithms*, Cambridge University Press, Cambridge, UK, 2006.
- Read the paper Pivtoraiko, M., Knepper, R. A., & Kelly, A., "Differentially constrained mobile robot motion planning in state lattices", Journal of Field Robotics, 26(3), 308–333, 2009.
  DOI: `https://doi.org/10.1002/rob.20285`
- Read the paper Likhachev, M., & Ferguson, D., "Planning long dynamically feasible maneuvers for autonomous vehicles", The International Journal of Robotics Research, 28(8), 933–945, 2009.
  DOI: `https://doi.org/10.1177/0278364909340445`
- Read Chapters 3.5–3.5.1 in Ljungqvist, O., "Motion planning and feedback control techniques with applications to long tractor-trailer vehicles", Ph.D. Thesis No. 2070, Division of Automatic Control, Linköping University, 2020.
  DOI: `https://doi.org/10.3384/diss.diva-165246`.

Assignments for Meeting on Feb. 9, 2021 (2/2)

- Do the part of Hand-in Exercise 2 from TSFS12 that concerns lattice planning (Section 4.3). In particular, extend the baseline implementation with an improved heuristics for the cost-to-go used in the graph search (e.g., using the implementation of the Dubins' vehicle). Those that have taken TSFS12 should also evaluate the ARA* graph search in the lattice planning.
- Extra assignment for interested (also project proposal): Extend the implementation to handle driving both forward and reverse (i.e., to the Reeds-Shepp vehicle).
- **Next meeting: Tuesday February 9, 2021, at 15:15 in Zoom**.
- Lecture responsibility: Jian Zhou.