

Using Trajectory Planning to Safely Cross the Street

Christian Pek

Technische Universität München

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Motivation

- How to safely traverse from start to goal position?



Figure: Frogger - The Game

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$\vec{v}(t)$?

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Topic

- Path Velocity Decomposition:
 - Given: path $\vec{x} = (x_0, x_1, \dots, x_n)$, $x_i \in \mathbb{R}^2$ as well as obstacles $B_j, j \leq k$ with initial position $d_j \in \mathbb{R}^2$ and velocity $\vec{v}_j(t)$
 - Determine collision-free $\vec{v}_{\text{ego}}(t)$ along \vec{x}

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 - Literature review on Path Velocity Decomposition for mobile robots
 - Comparison to other trajectory planning algorithms
 - Implement the Frogger scenario
 - Implement a PVD algorithm of your choice

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⇒ Any questions? Interested? Feel free to contact me!
christian.pek@tum.de