



Behaviorally Compatible, Energy Efficient, and Network-Aware Vehicle Platooning Using Connected Vehicle Technology/1837245/Sept. 2018/Neda Masoud and Yafeng Yin, University of Michigan Ann Arbor

Challenge:

- Lack of scalable path planning models
- Lack of scalable optimal control models
- Energy efficiency of utility-maximizing agents

Solution:

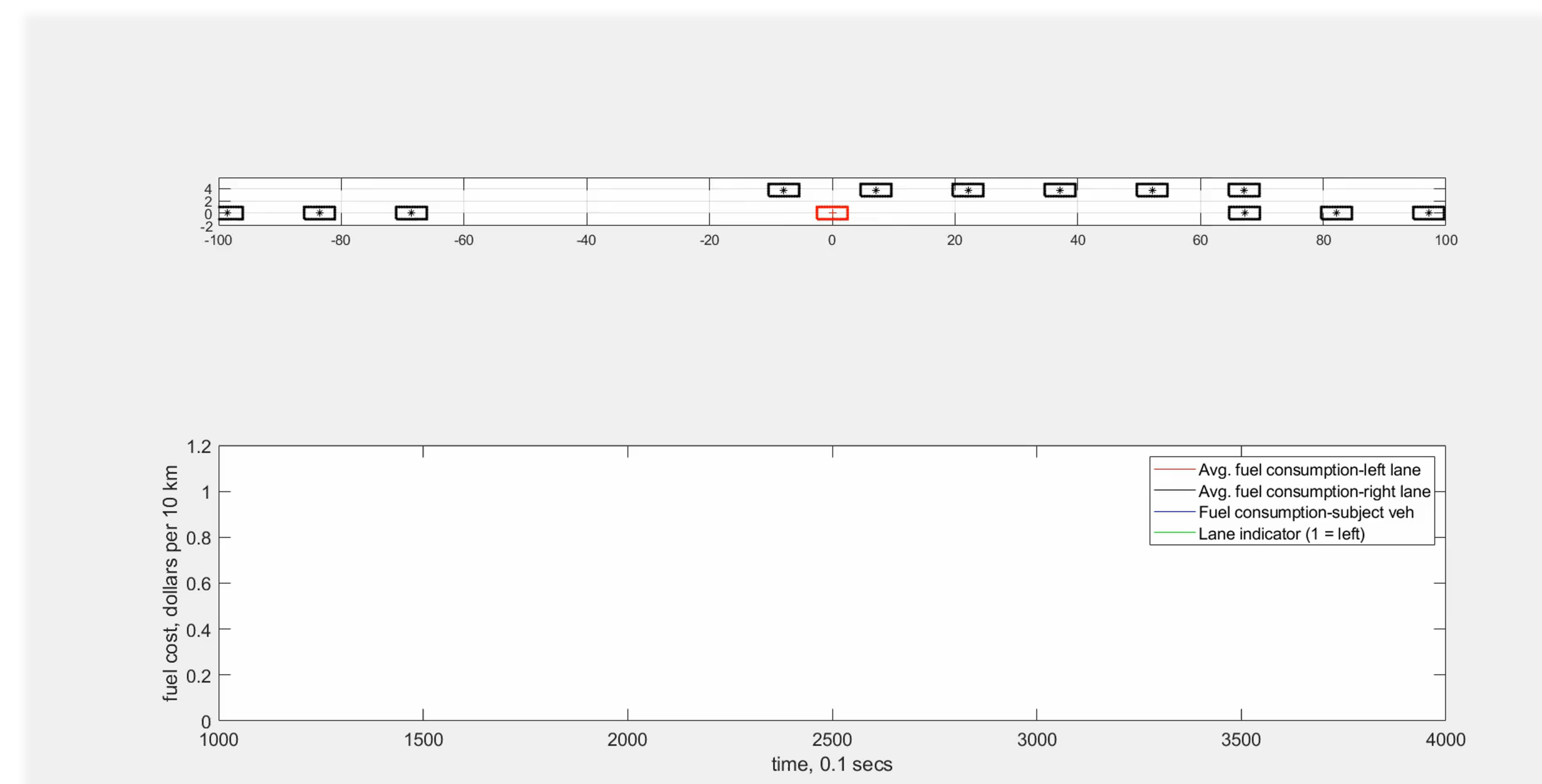
- Path planning for platoon formation
- Enhancing control models with MDPs
- Pricing schemes to form behaviorally stable platoons

Contact Neda Masoud (nmasoud@umich.edu) for further information

Offline: Path planning



Online: Trajectory planning



Scientific Impact:

- Decision making while accounting for long-term risks and consequences
- Accounting for how decision-making by utility maximizing agents affects system-level performance

Broader Impact:

- What is the impact on society? A greener transportation sector
- Who will care? Policy makers and OEMs
- Education and Outreach: Course modules and public webpages
- *Quantify* potential impacts: Up to 10% reduction in energy consumption