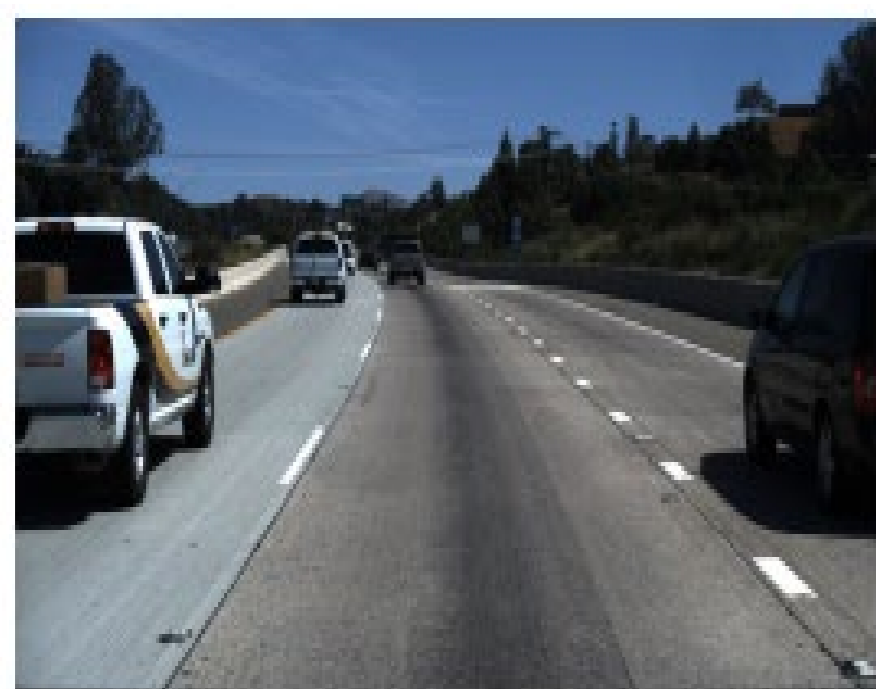


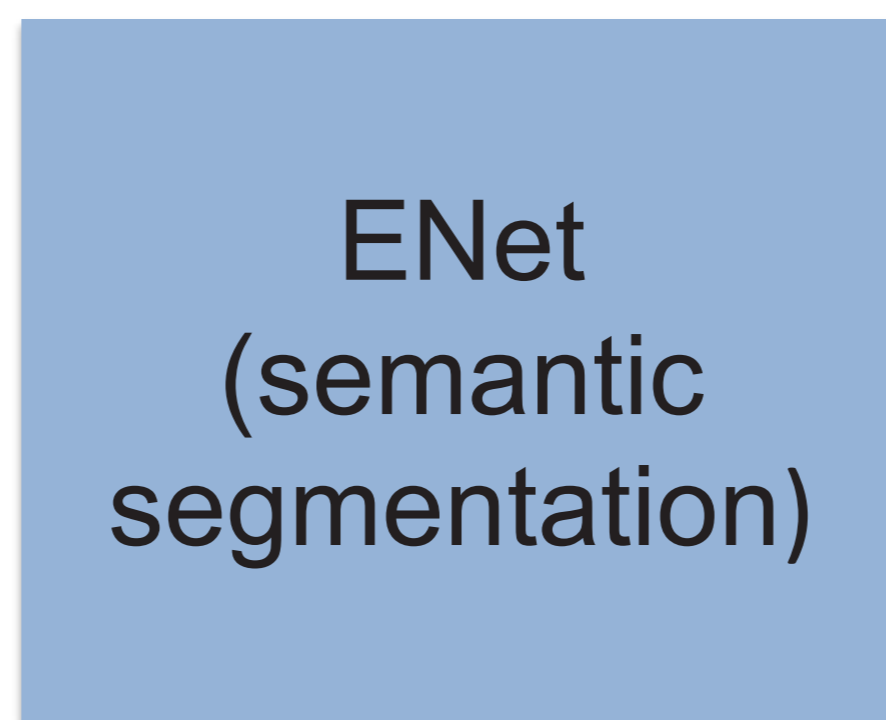
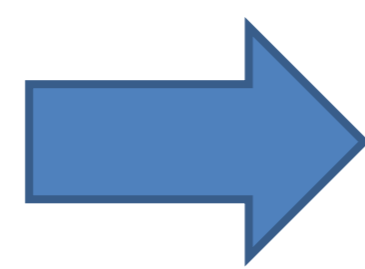
Distillation and Self-training in Lane Detection

Student: Ngo Jia Wei

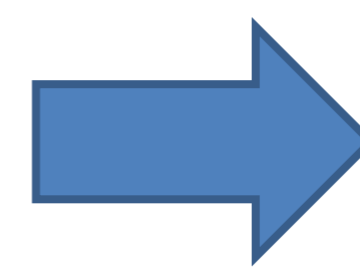
Supervisor: A/P Loy Chen Change



Input image



Network



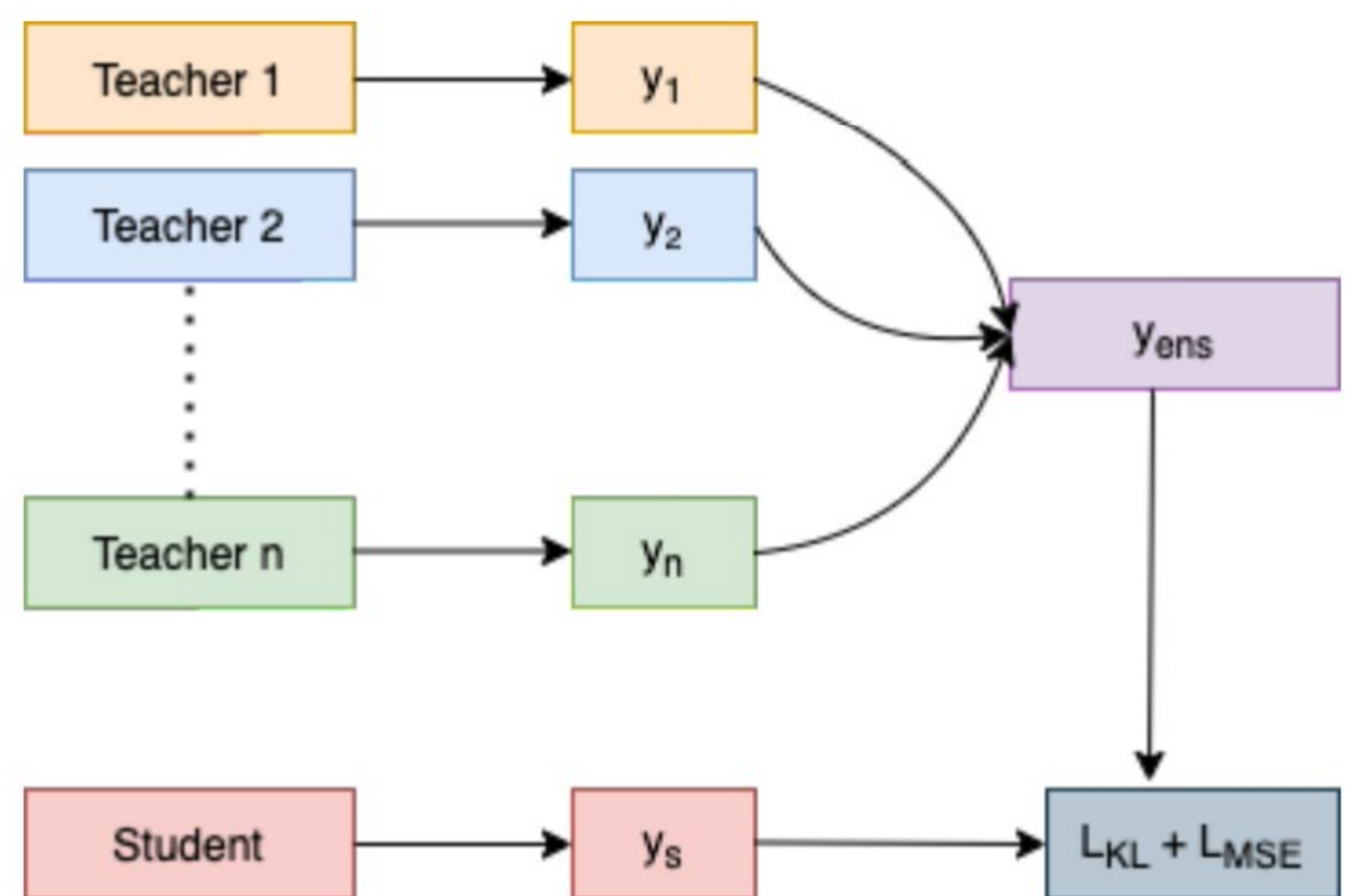
Segmentation mask

Project Objectives

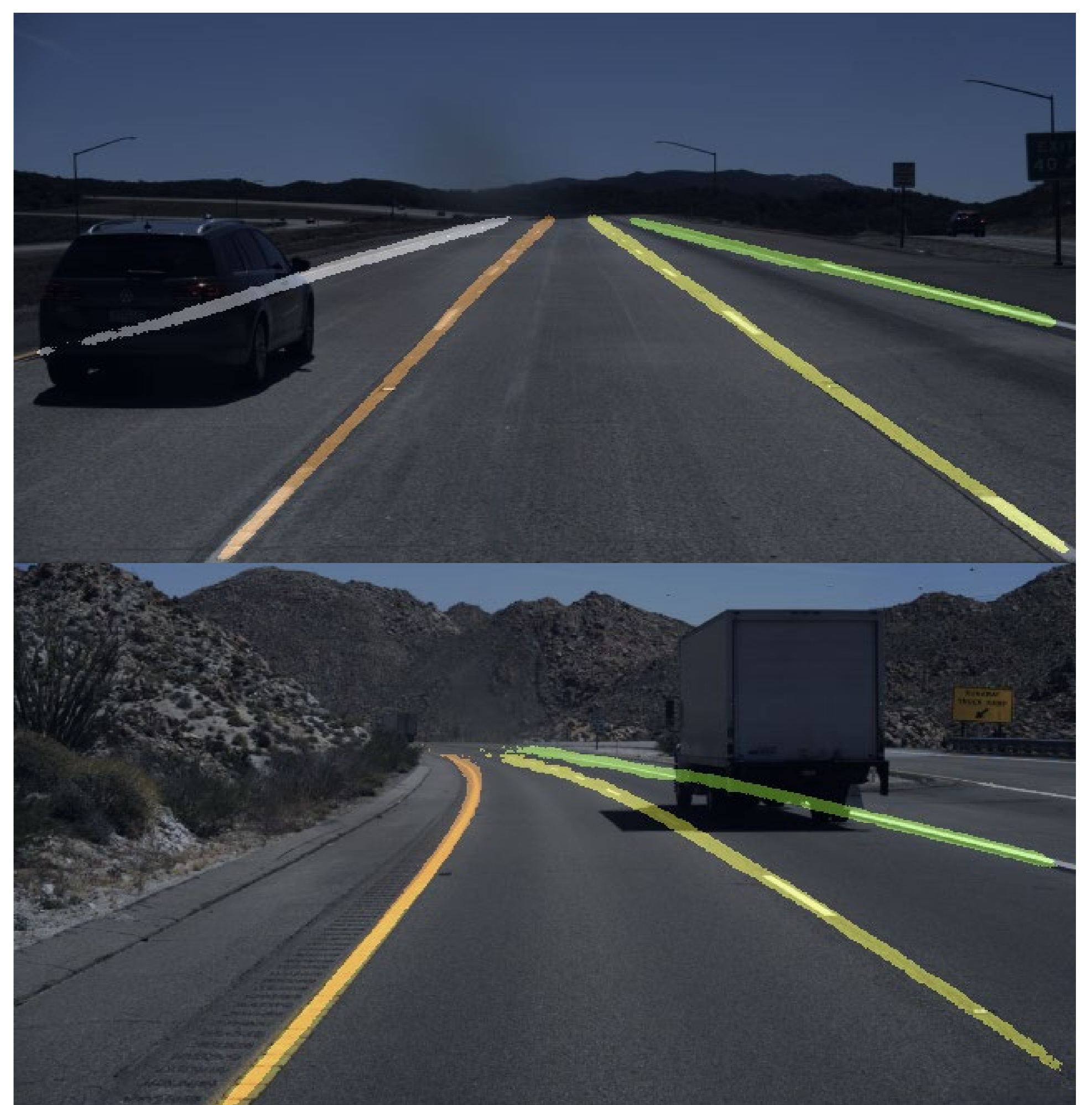
Lane Detection is a crucial task which provides the lateral bounds for self-driving cars. We investigate possible performance gains for lane detection with 1) Knowledge Distillation from multiple teachers through ensemble learning, and 2) self-training with additional data simultaneously with 1).

Findings

Our results show that with Knowledge Distillation from an ensemble of same-architecture models, we can absorb the performance gains from ensemble learning, while retaining a much lower runtime. (20ms in ensembles vs 4ms (Ours))



Knowledge Distillation from multiple teachers



Lane detection capable of real time