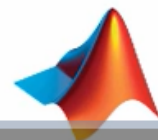


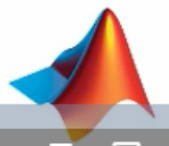
Optimal State Estimator





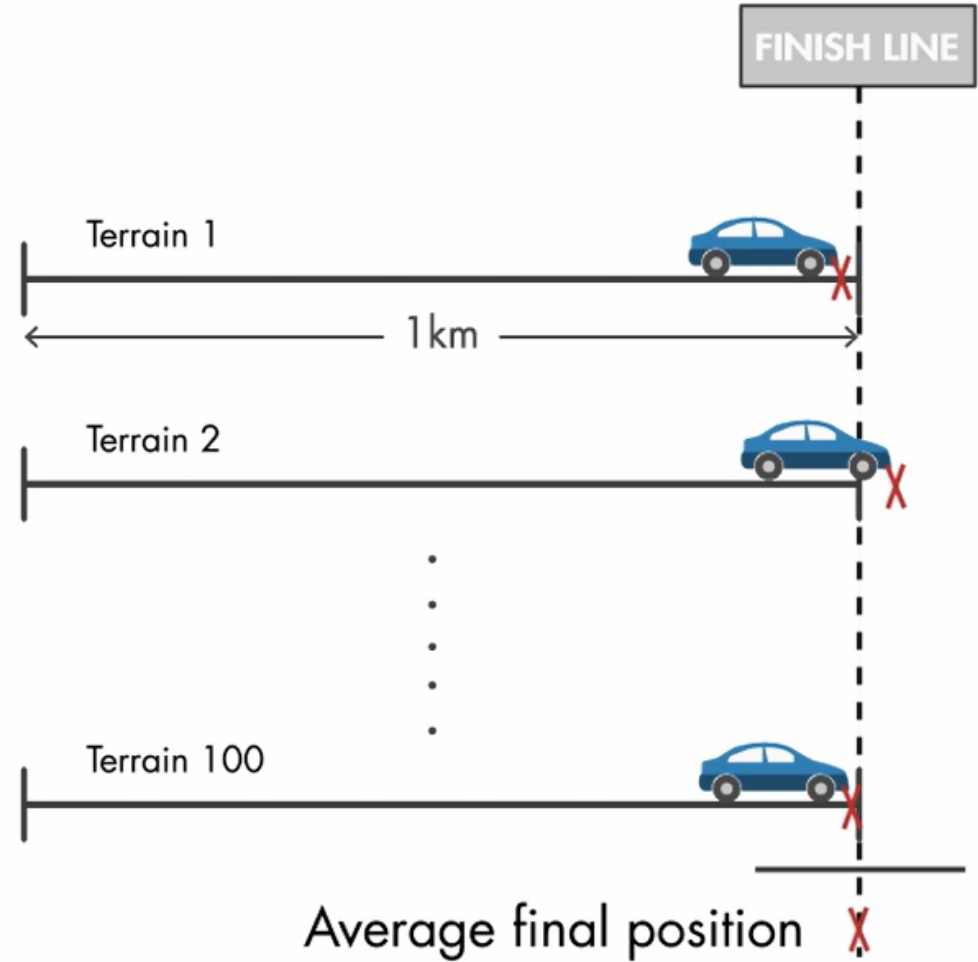
Self-driving car
locates itself using GPS

0:25

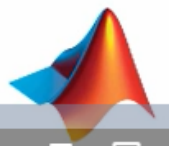


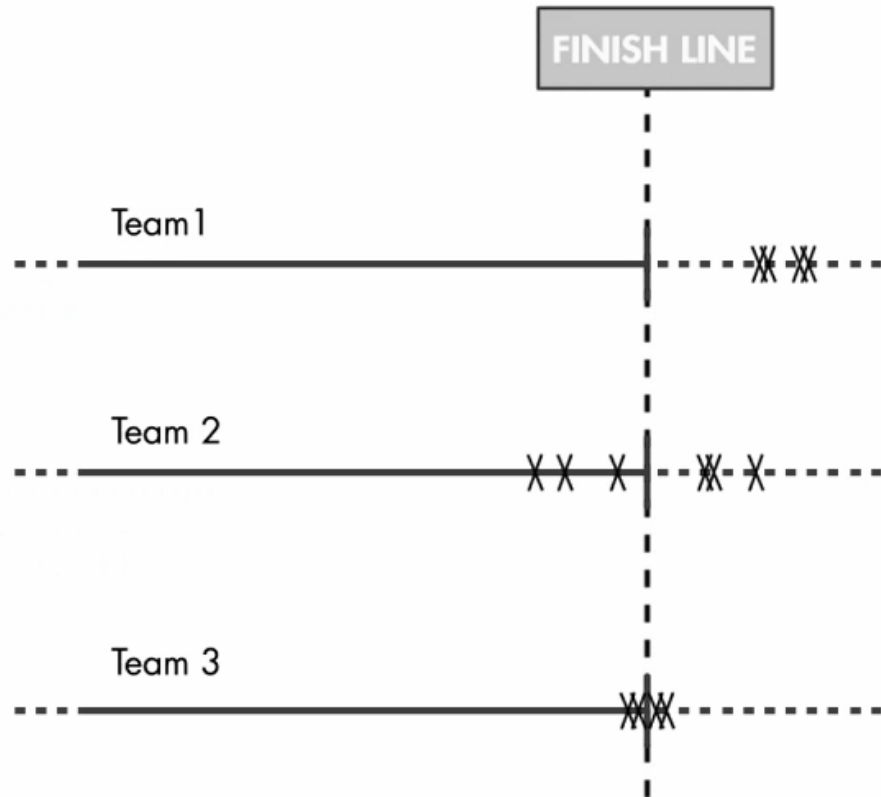


Self-driving car
locates itself using GPS



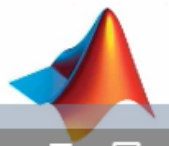
0:48





*To simplify graphic, each set of the black X's represents all 100 trials.

0:59

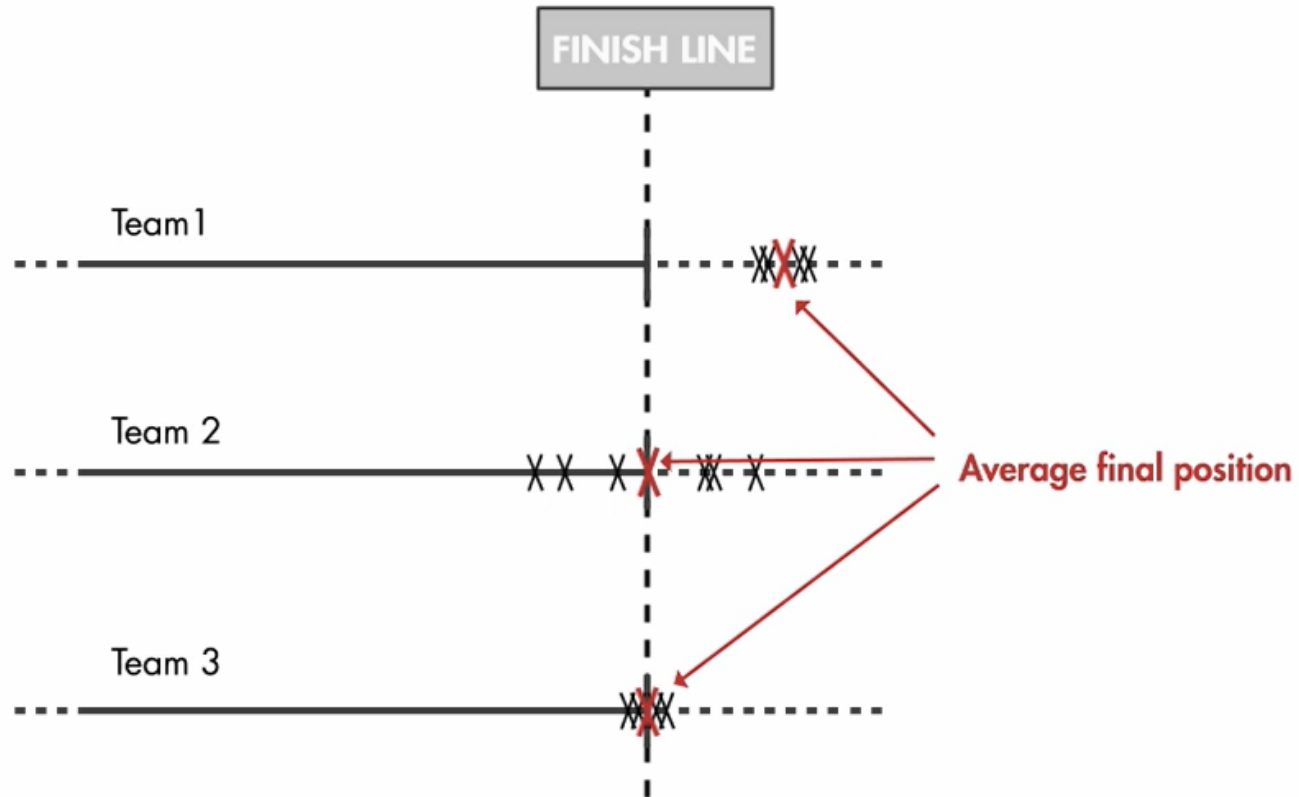


1x

CC

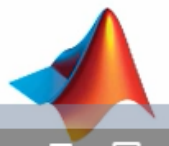
YT

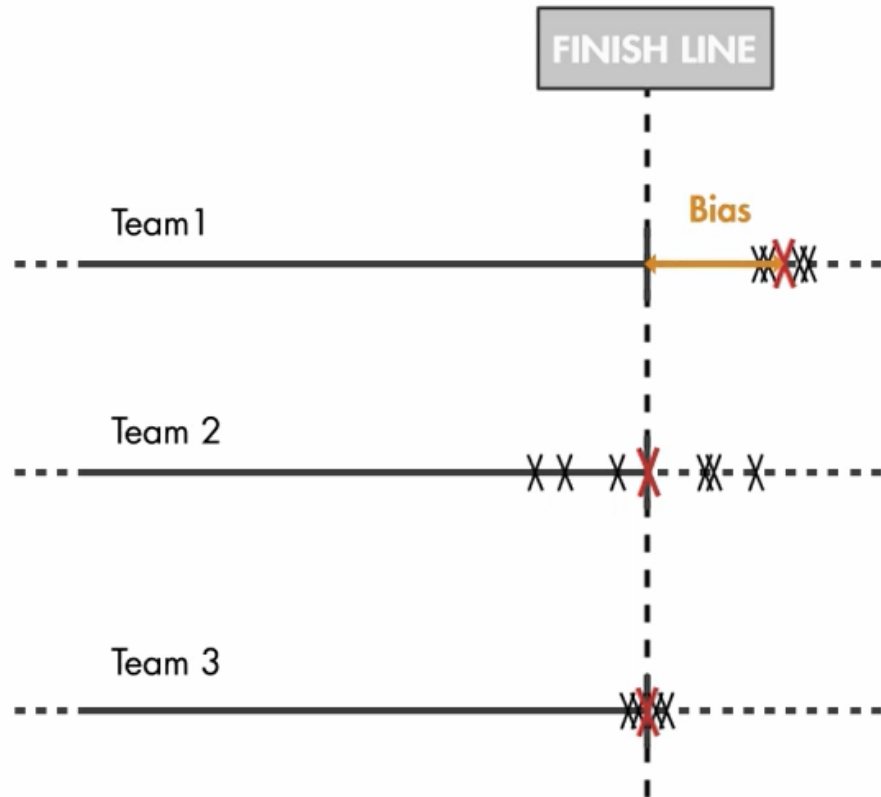
⌵



*To simplify graphic, each set of the black X's represents all 100 trials.

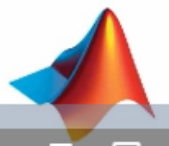
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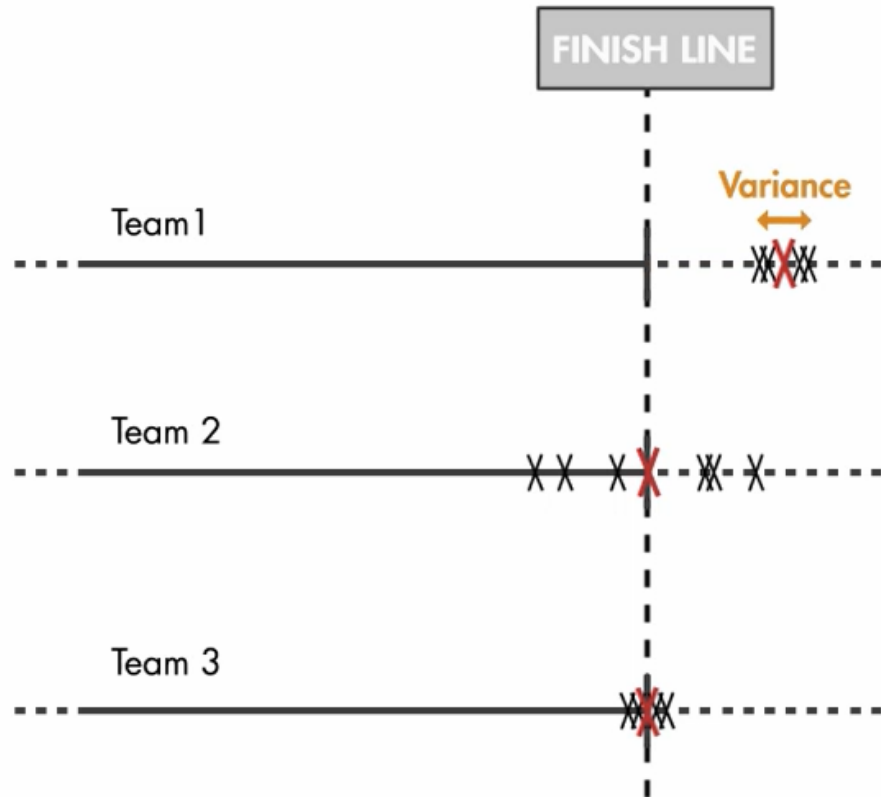




*To simplify graphic, each set of the black X's represents all 100 trials.

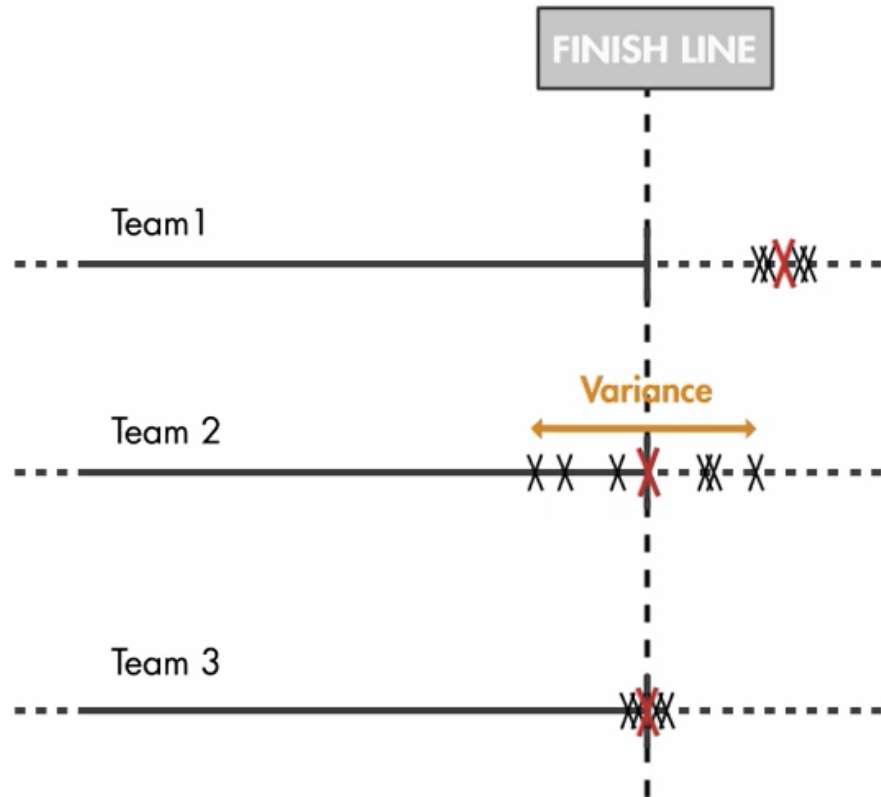
1:11





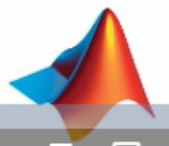
*To simplify graphic, each set of the black X's represents all 100 trials.

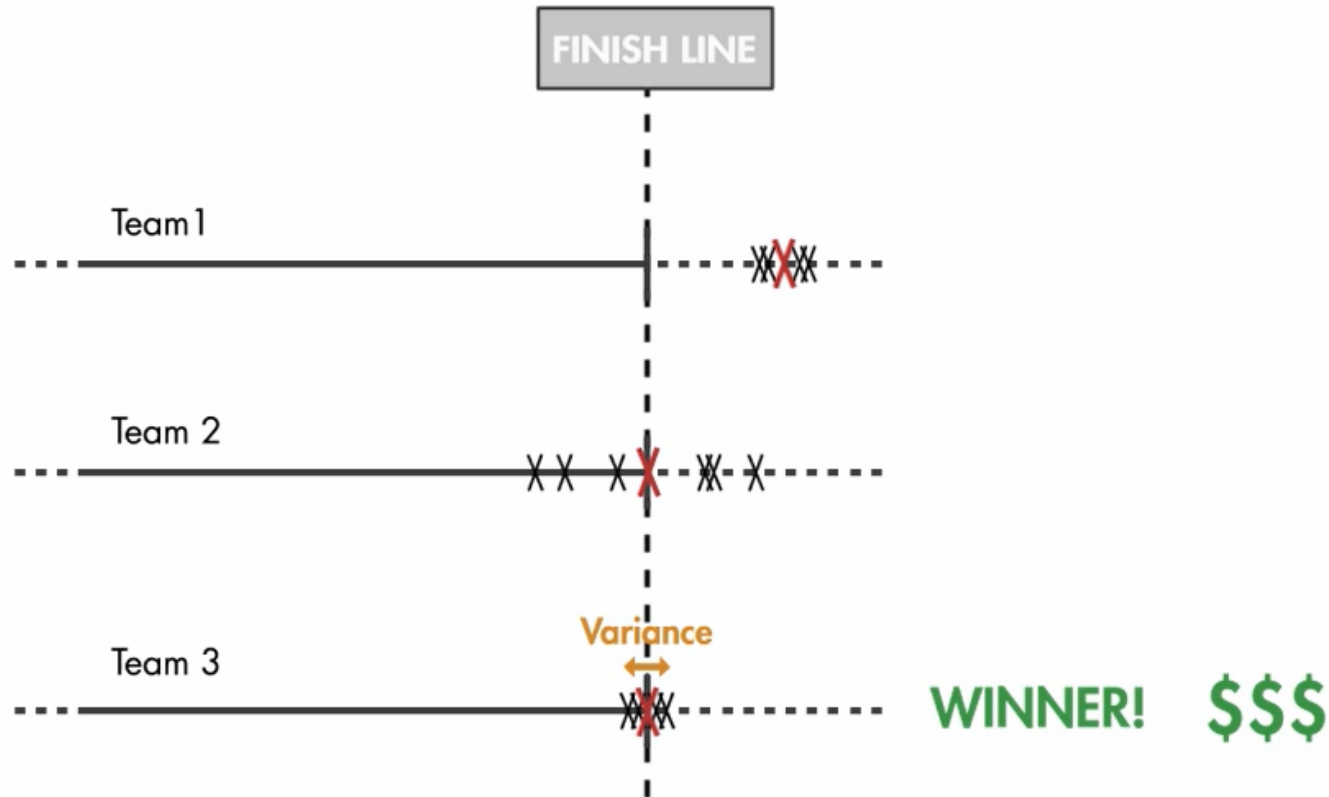




*To simplify graphic, each set of the black X's represents all 100 trials.

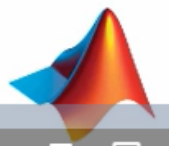
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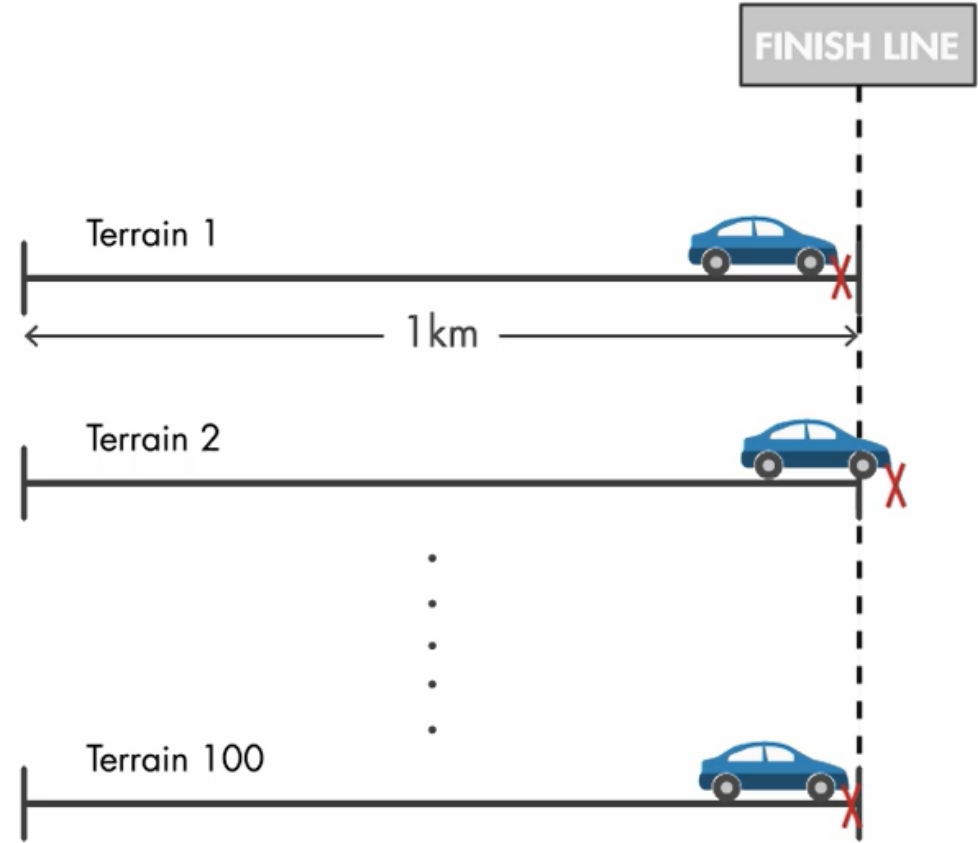
*To simplify graphic, each set of the black X's represents all 100 trials.

1: 1:29

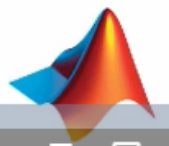




Self-driving car
locates itself using GPS

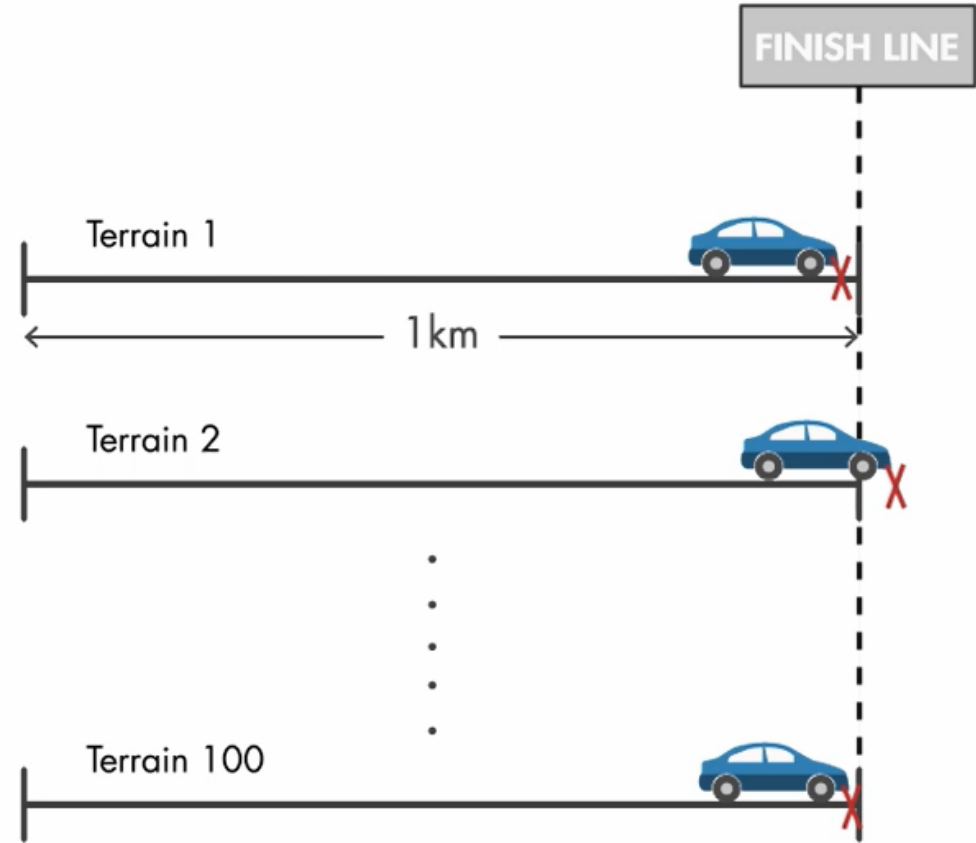


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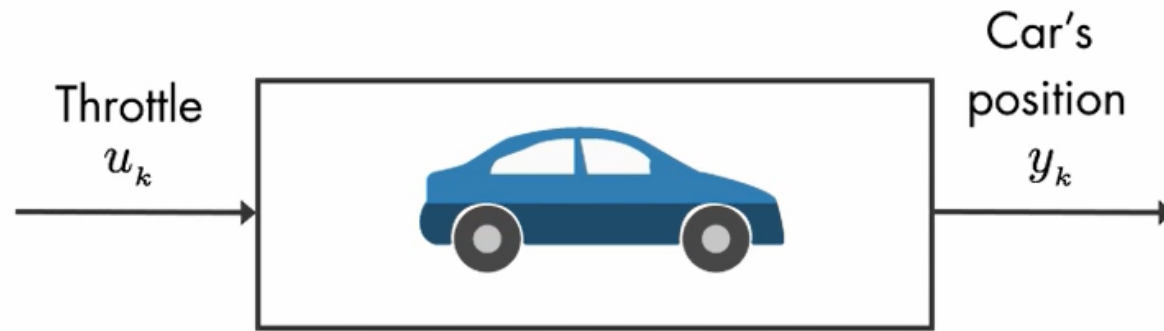
Self-driving car
locates itself using GPS

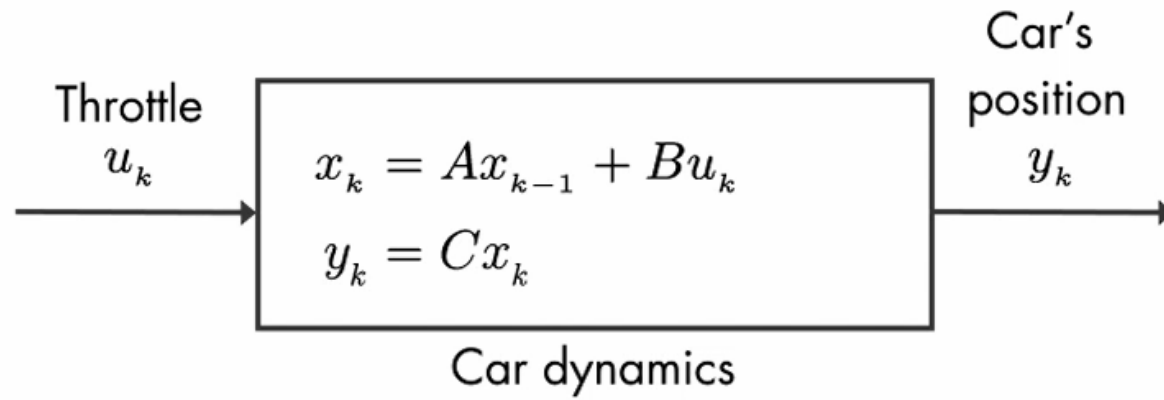


Zero bias + Minimum variance

\$\$\$

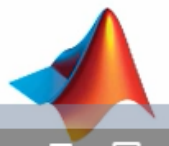


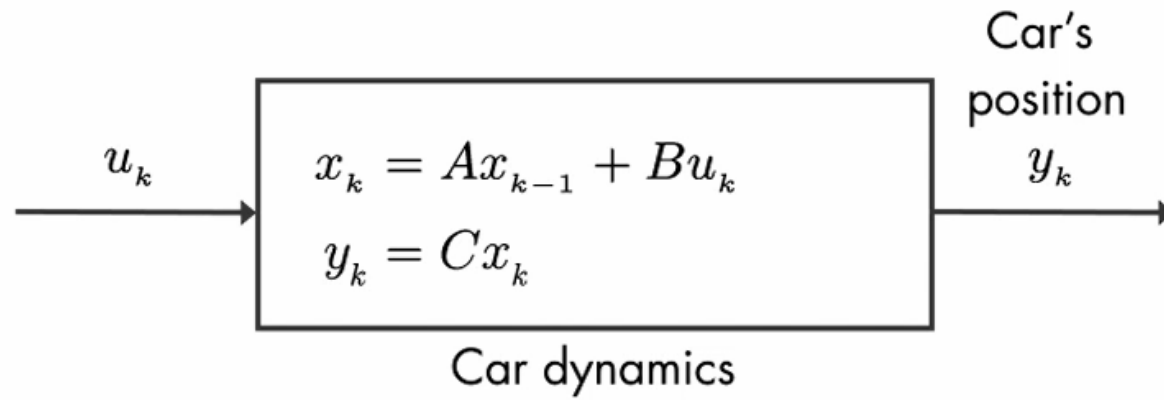




$$x_k = \begin{bmatrix} \textit{velocity} \\ \textit{position} \end{bmatrix}$$

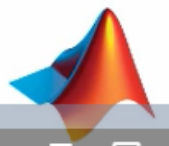
2:06

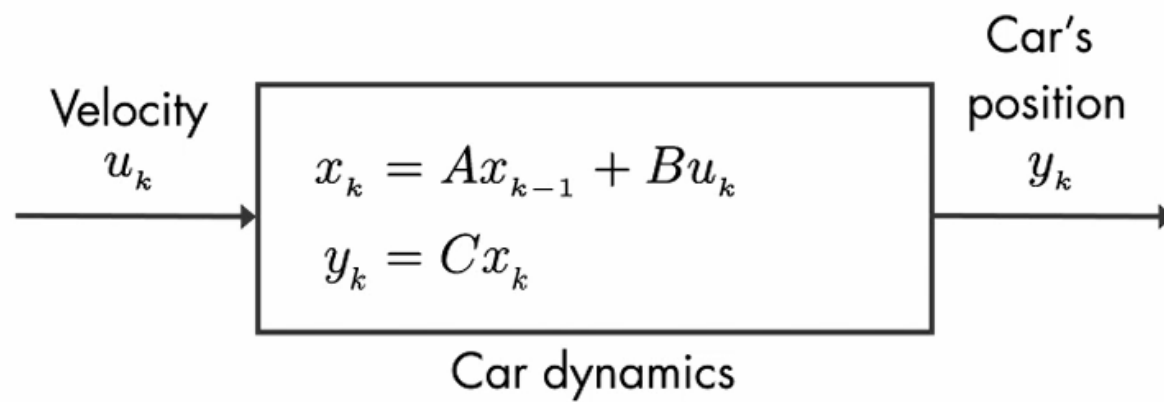




$$x_k = [position]$$

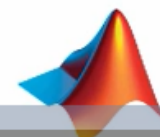
$$C = 1$$

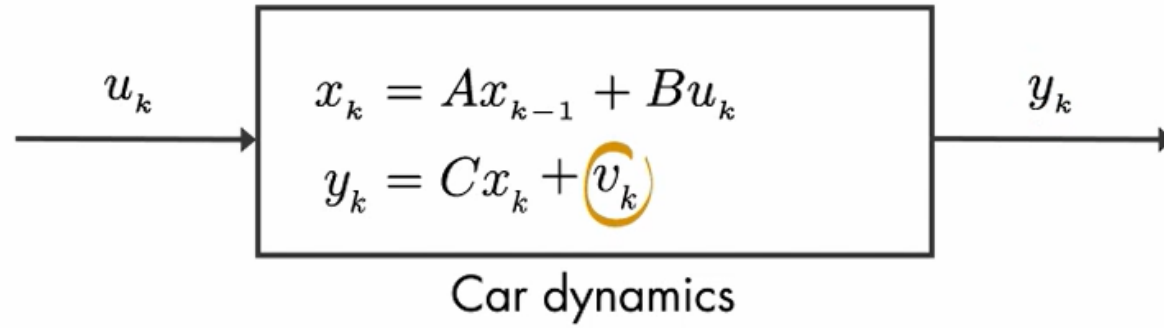




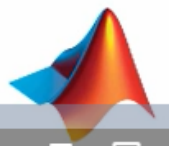
$$x_k = [position]$$

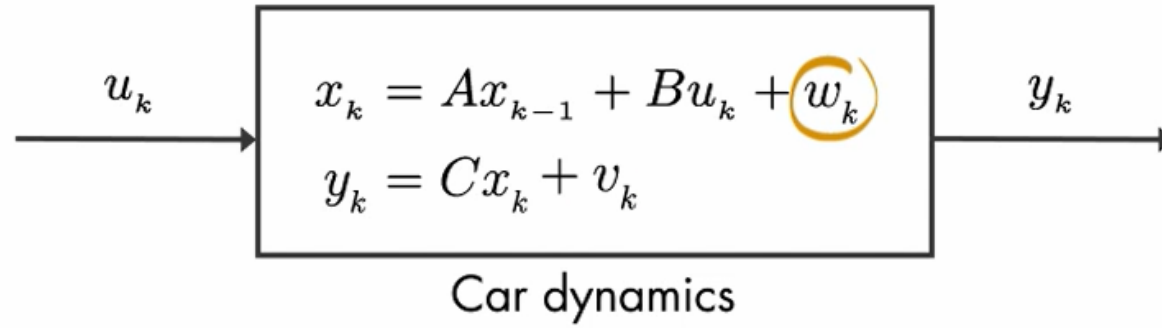
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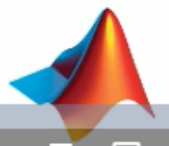


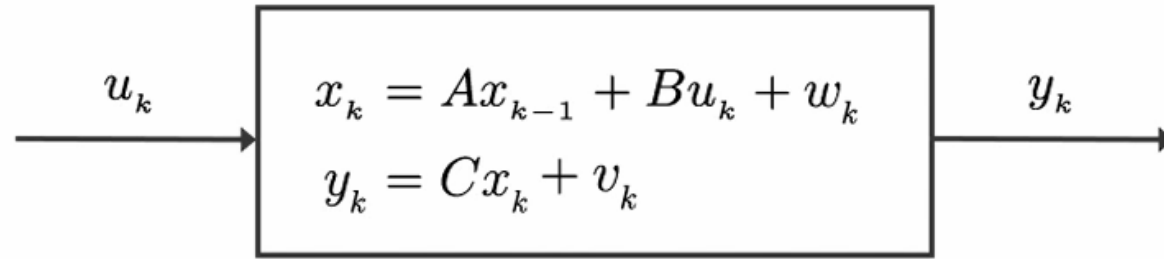
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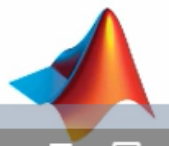
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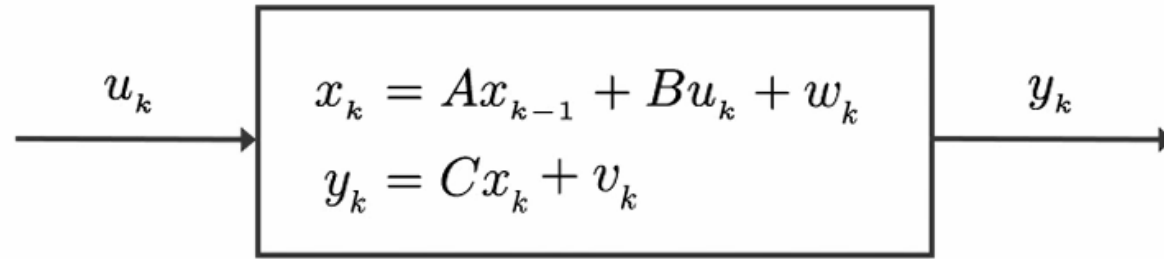




Car dynamics

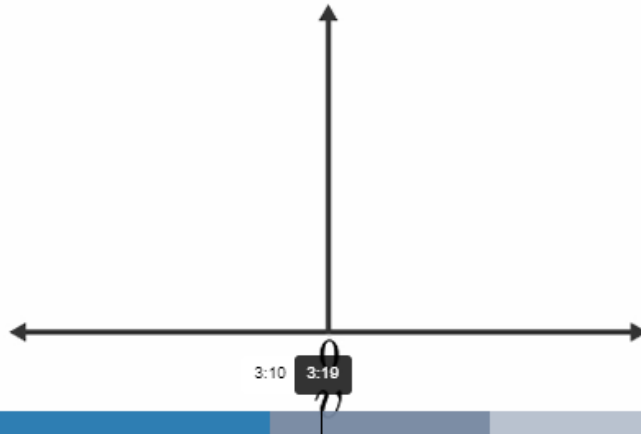
$$v \sim N(0, R)$$



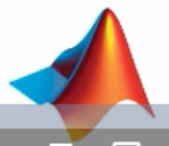


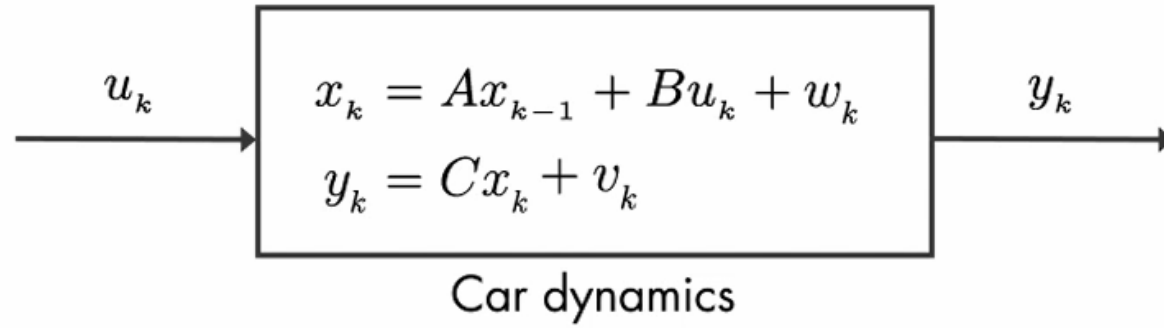
Car dynamics

$$v \sim N(0, R)$$

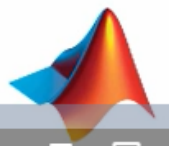
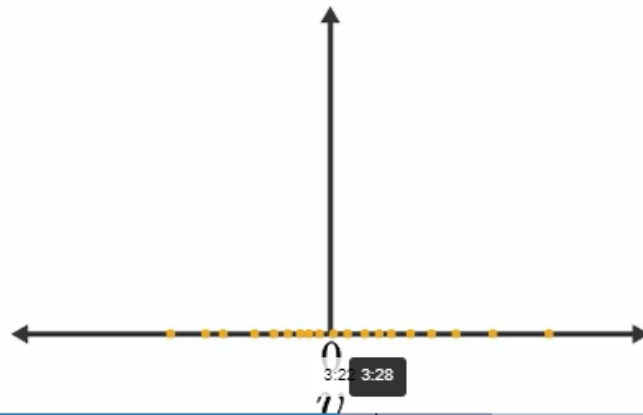


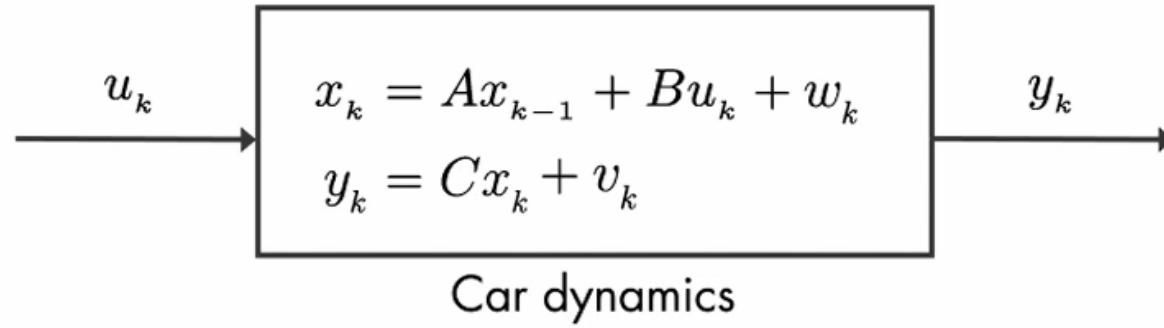
3:10 3:19



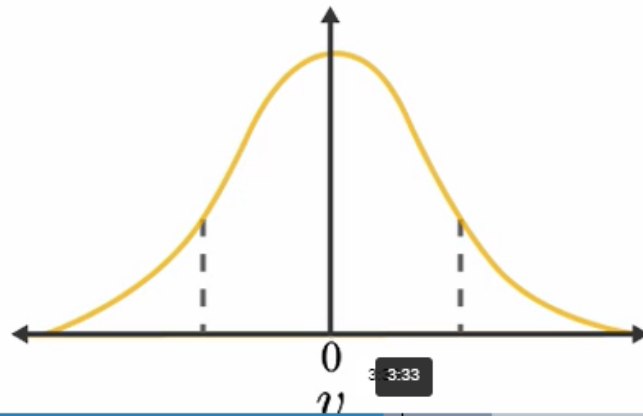


$$v \sim N(0, R)$$

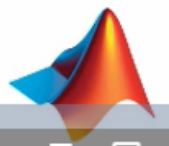


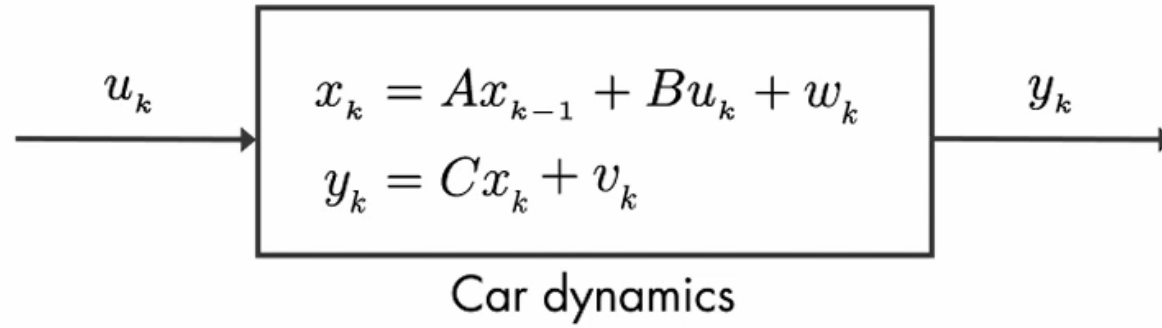


$$v \sim N(0, R)$$

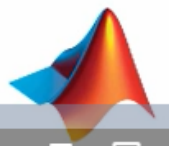
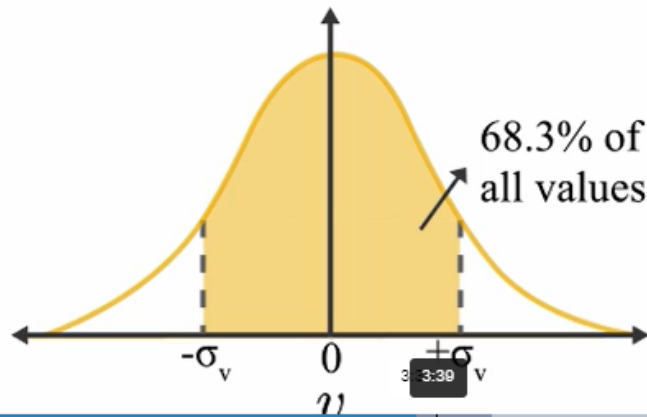


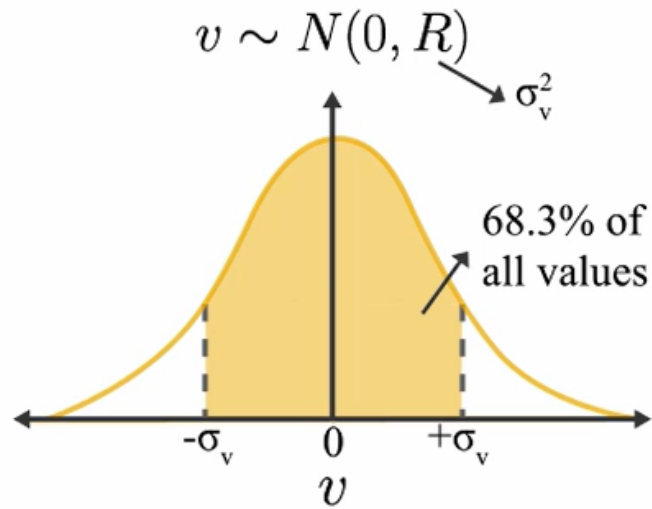
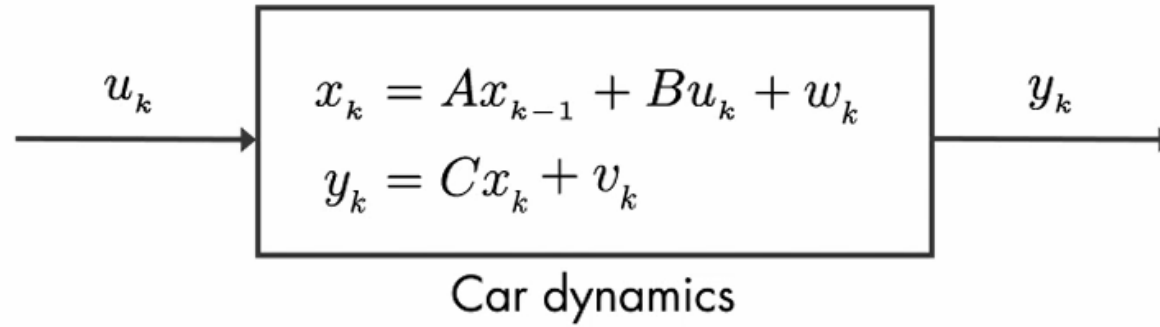
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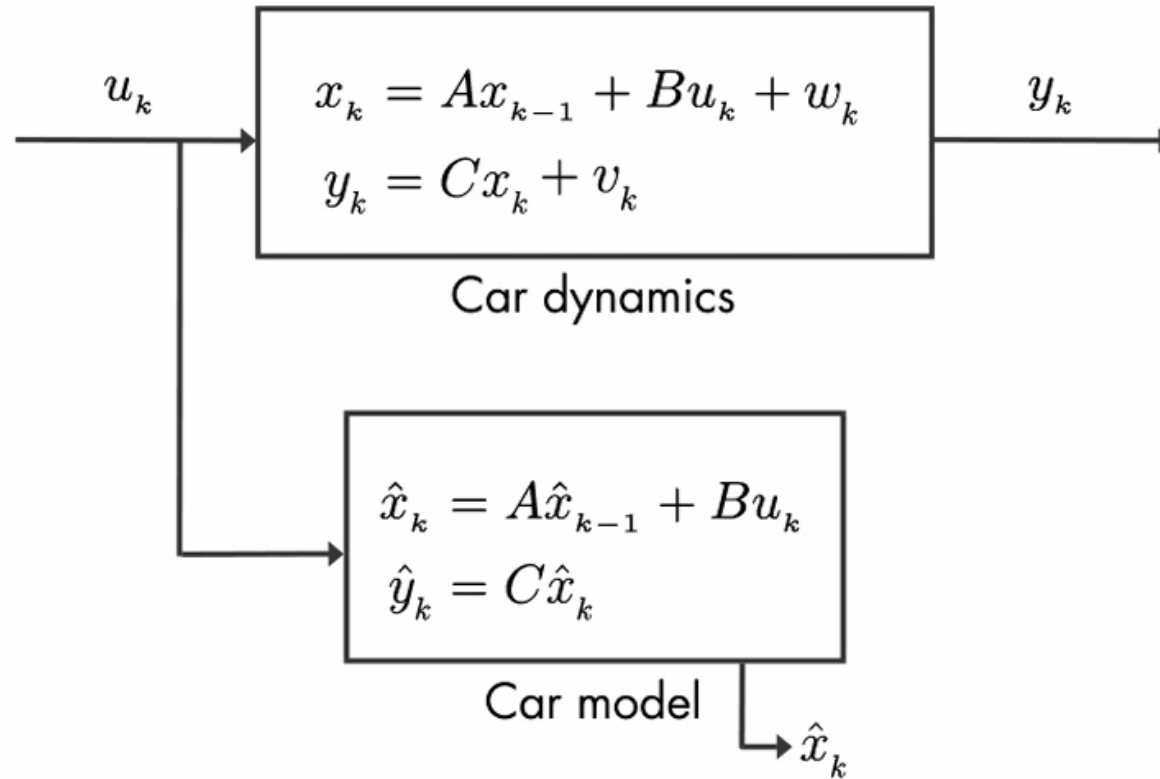




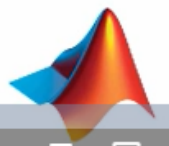
$$v \sim N(0, R)$$

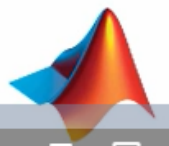
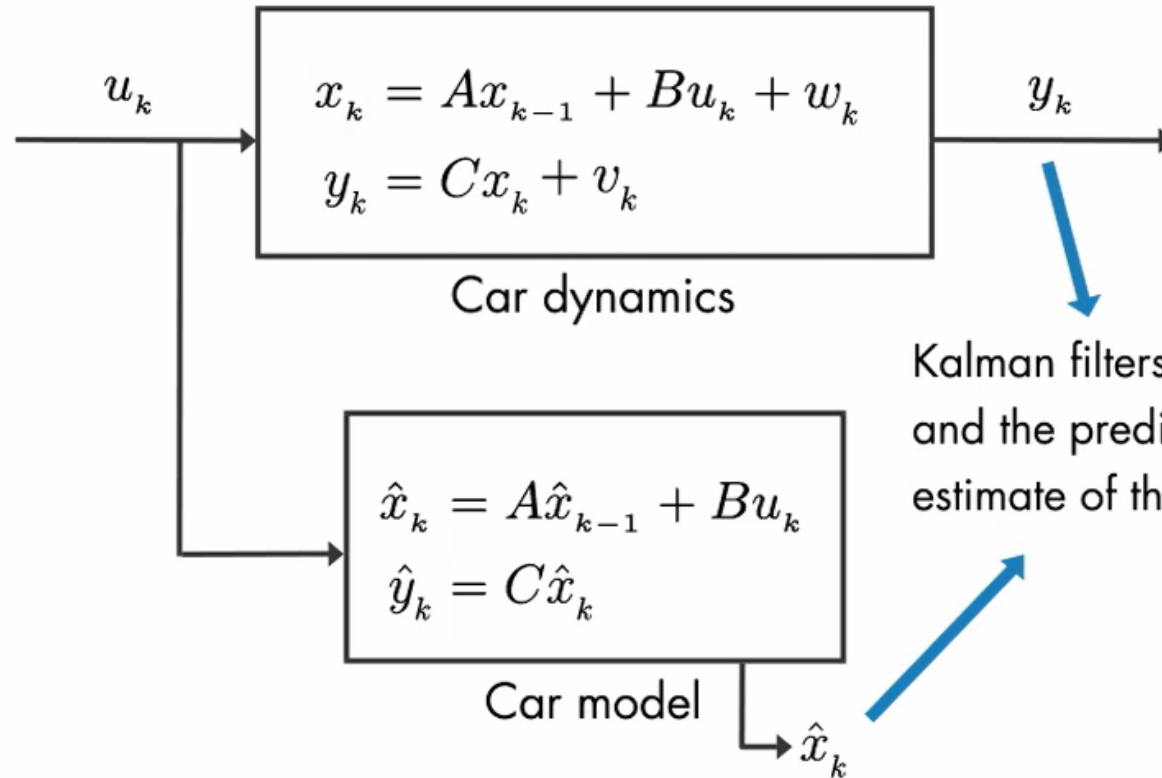


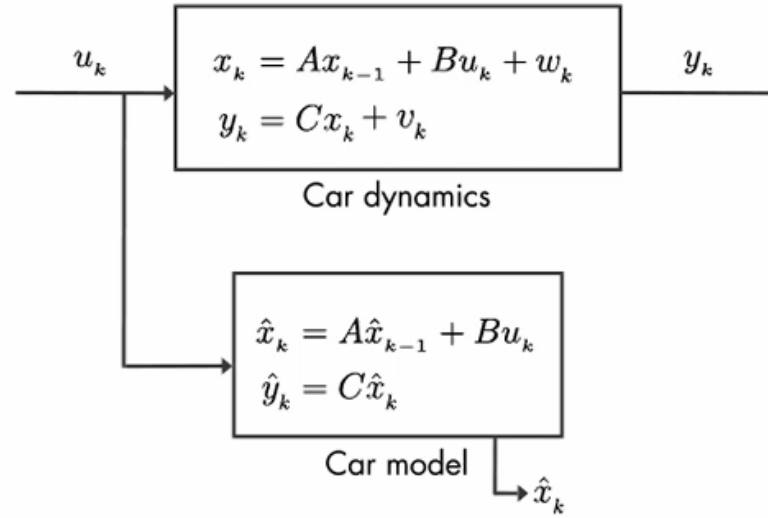




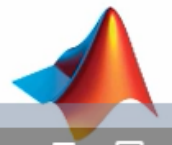
4:03 4:08

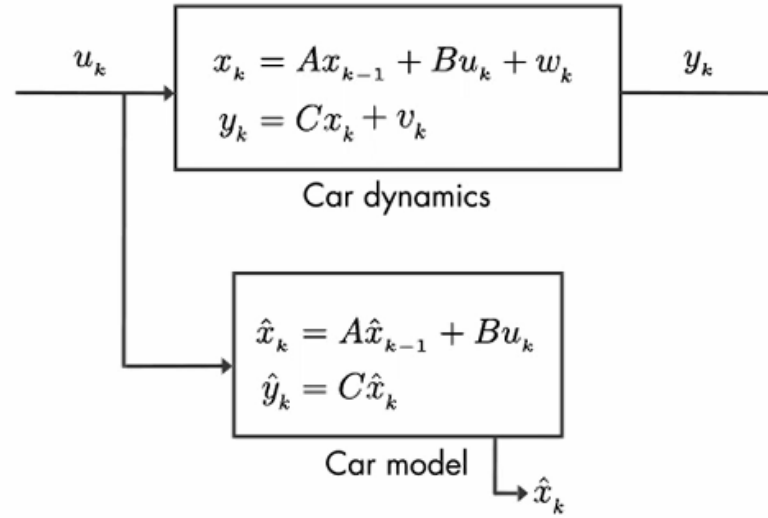




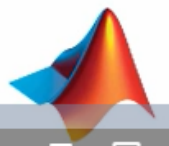


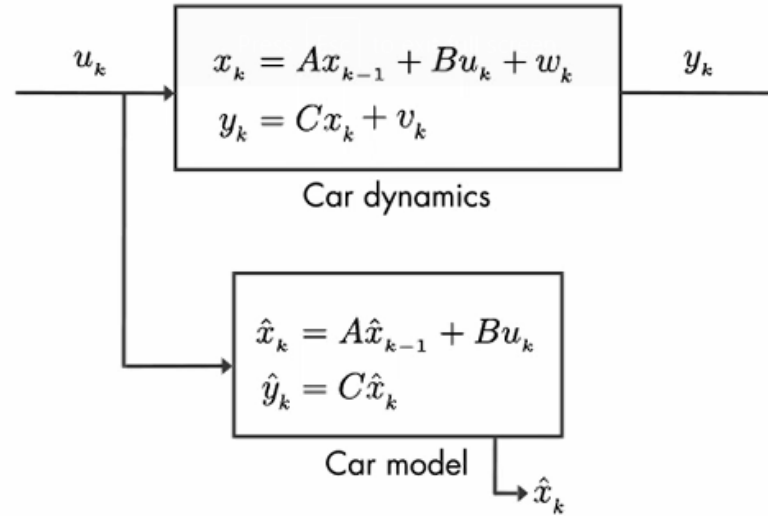
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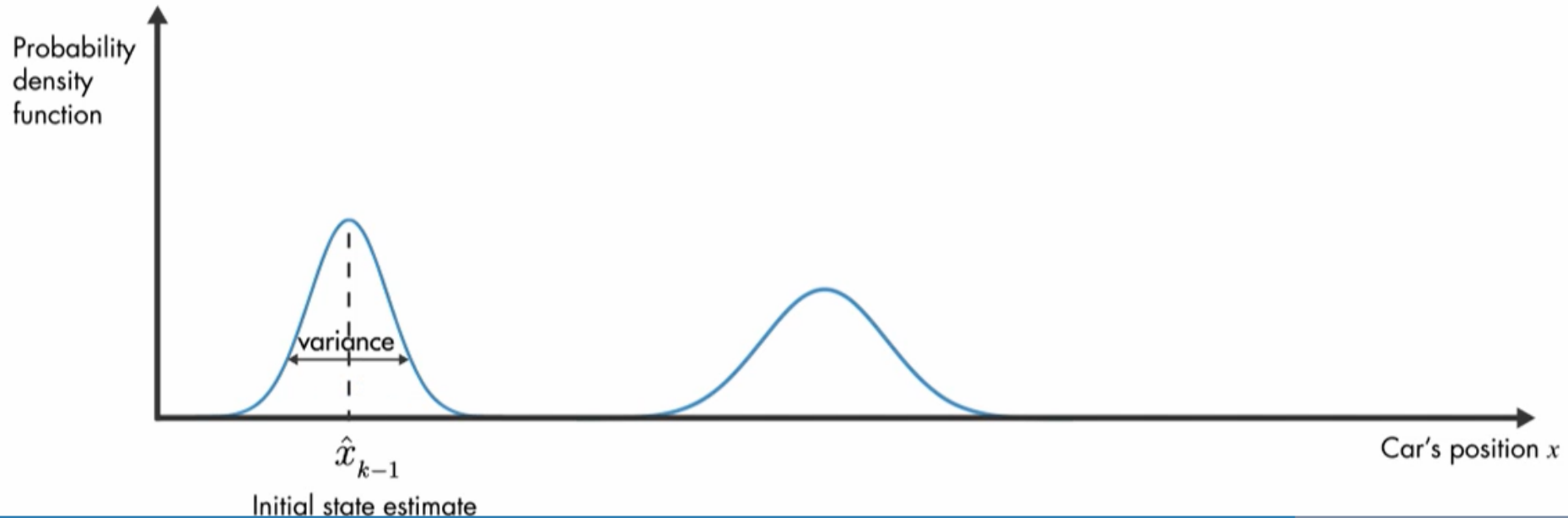
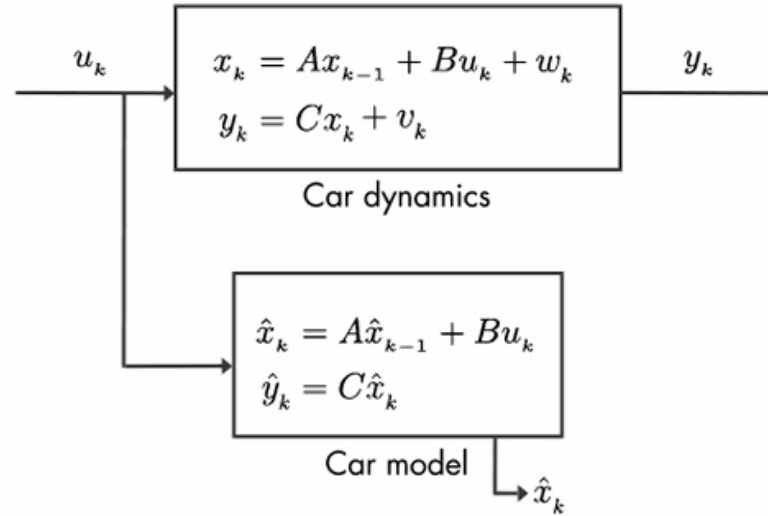


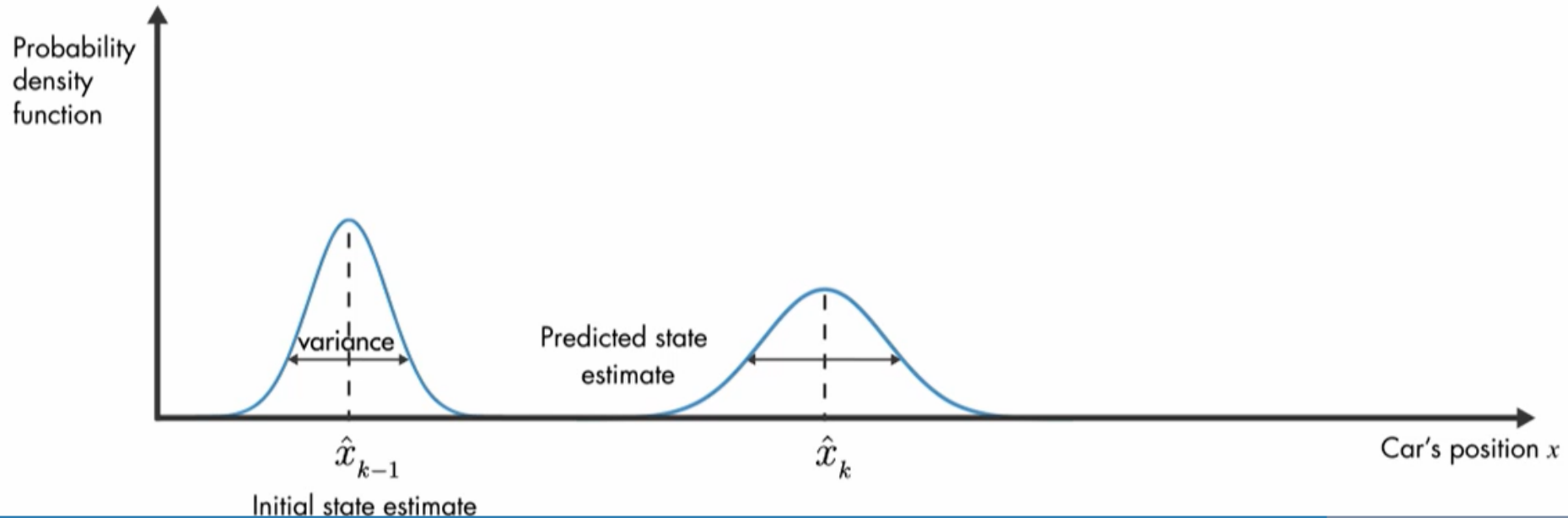
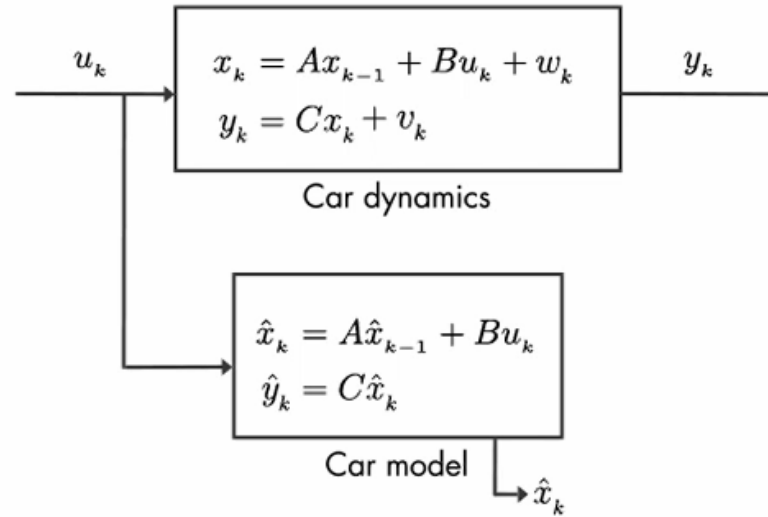


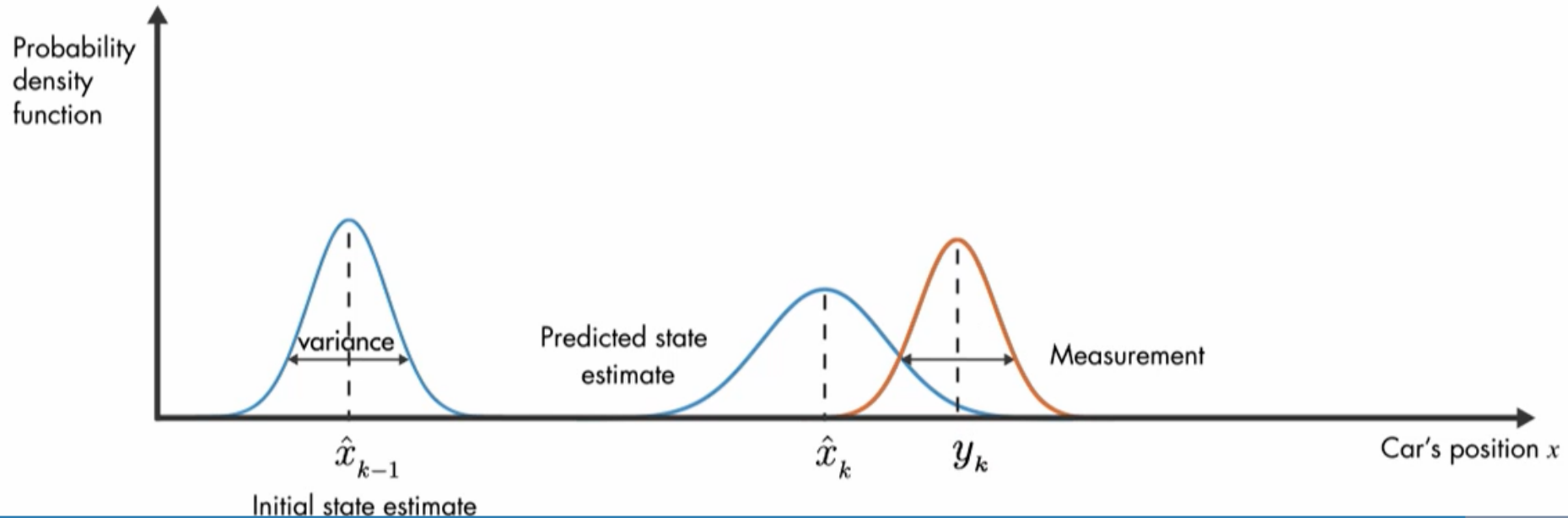
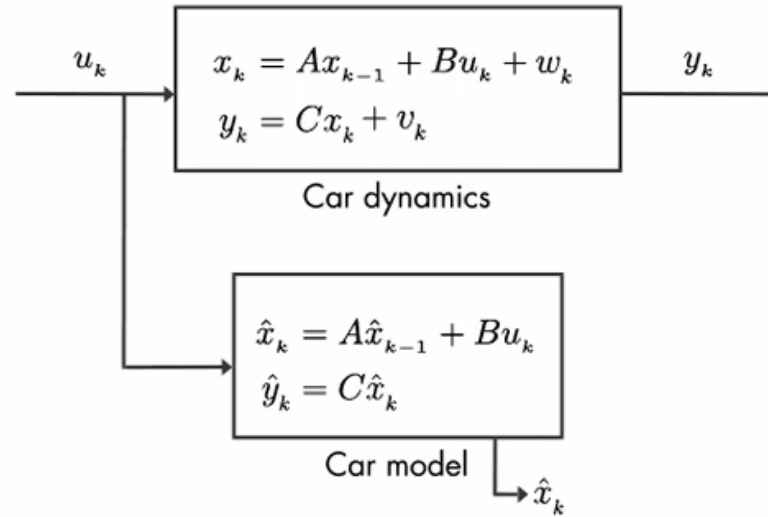
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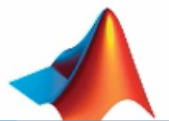
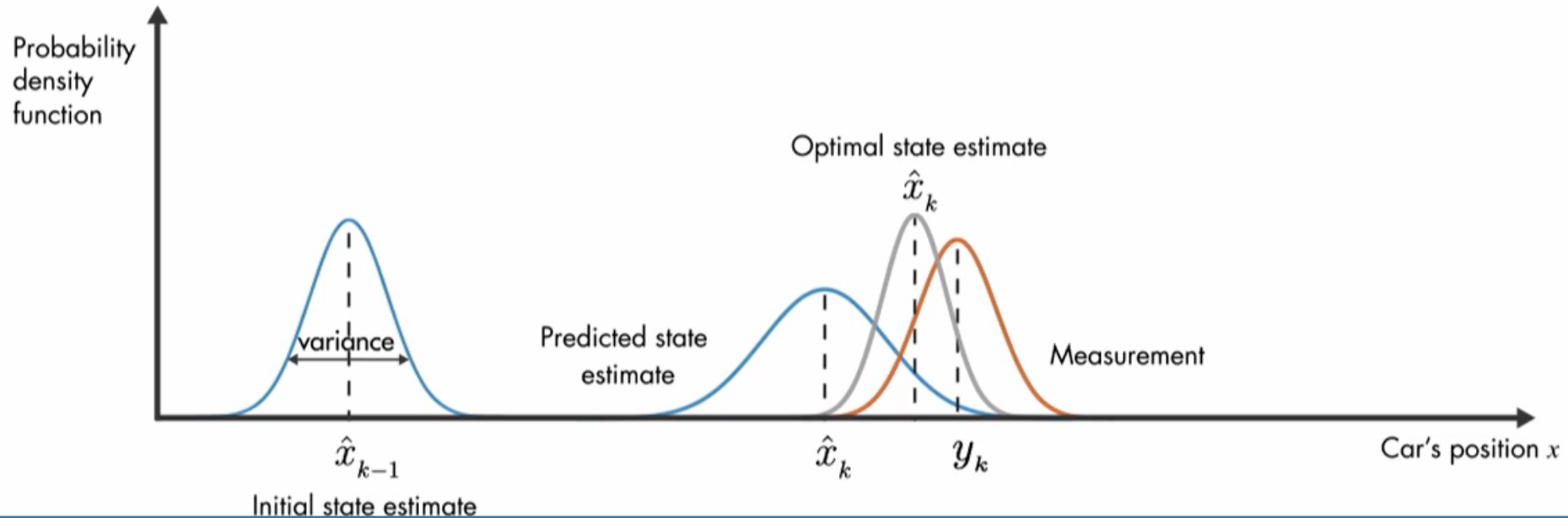
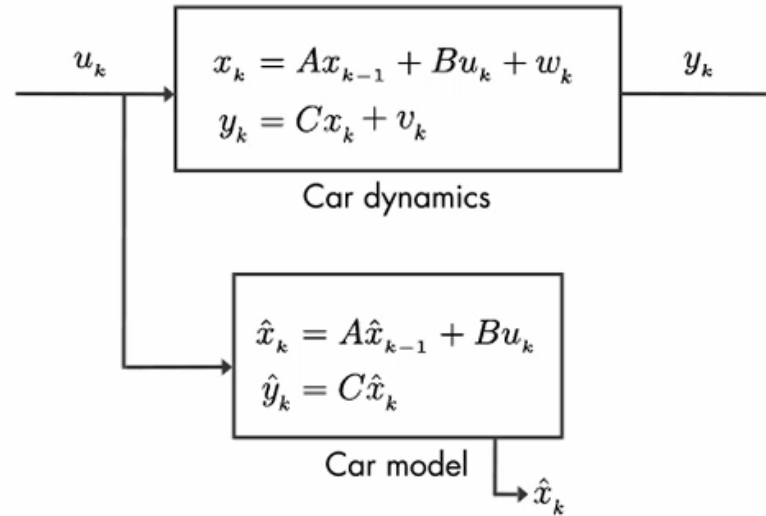


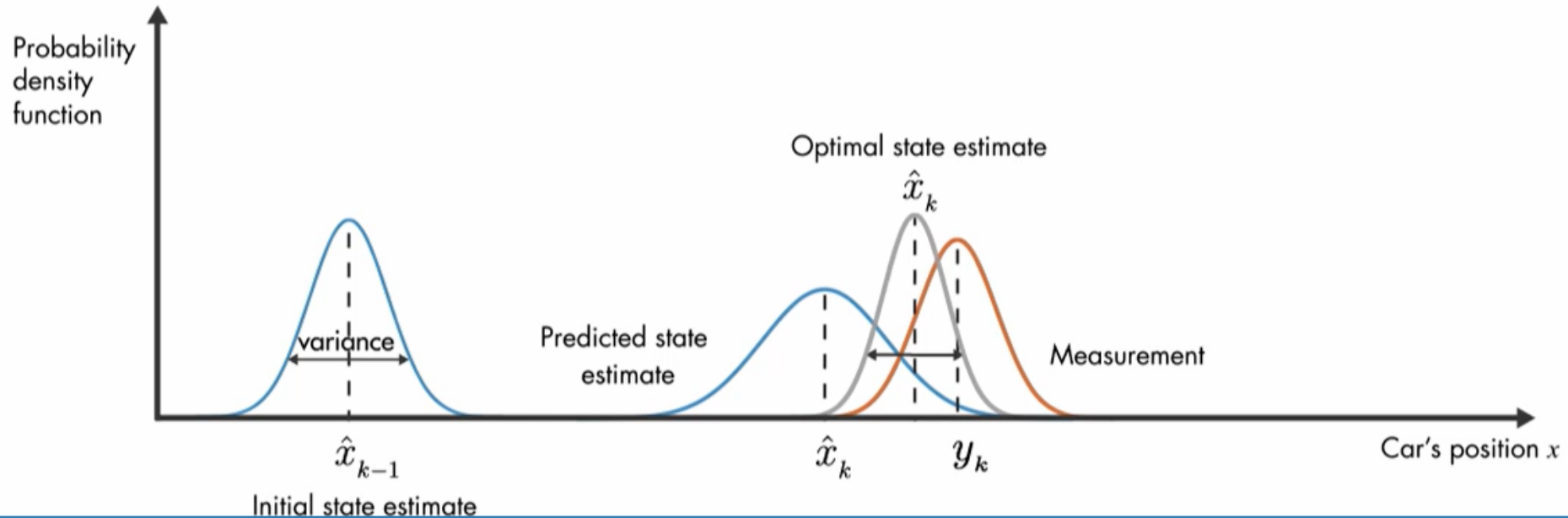
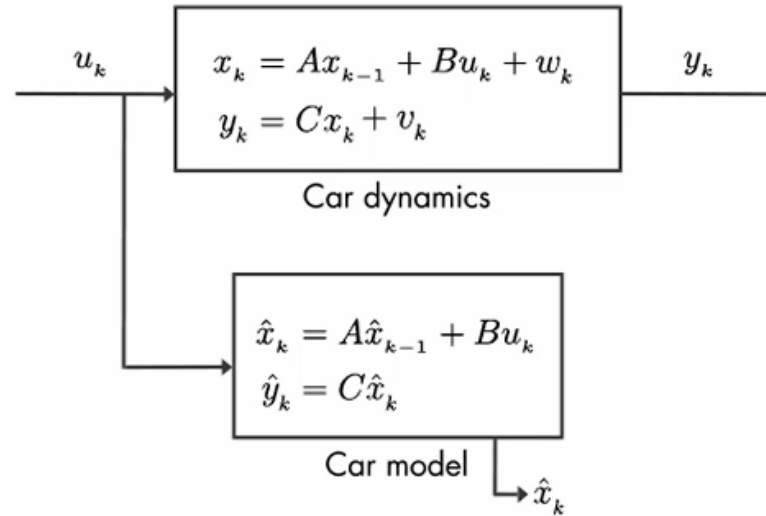


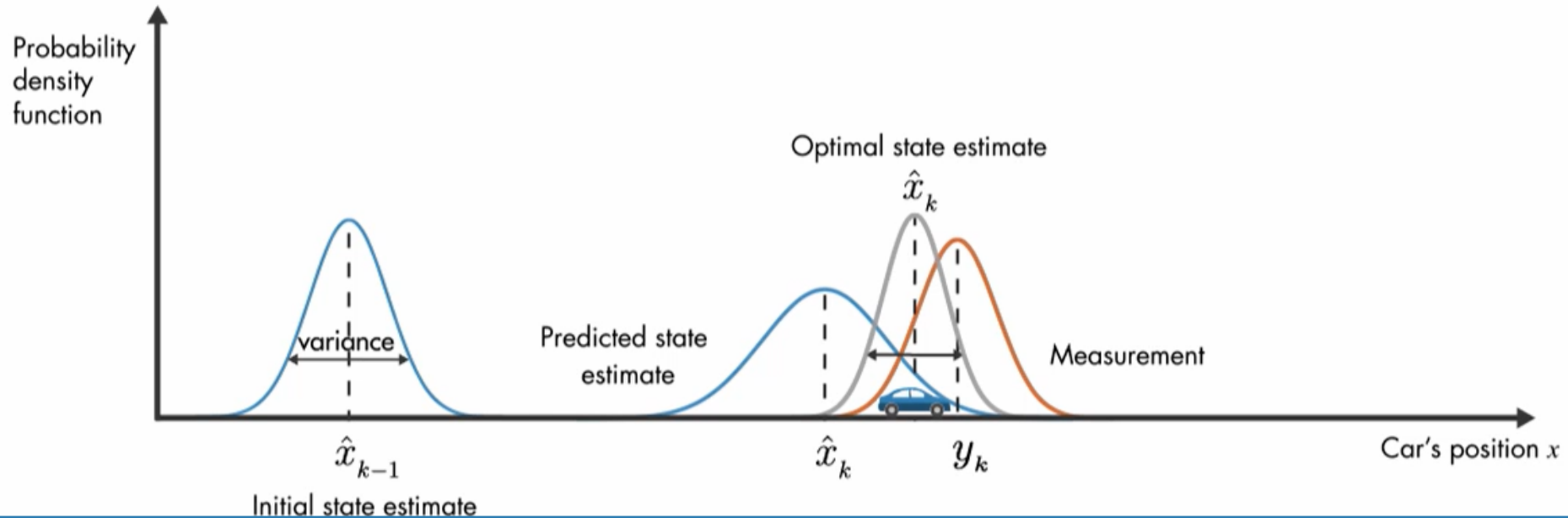
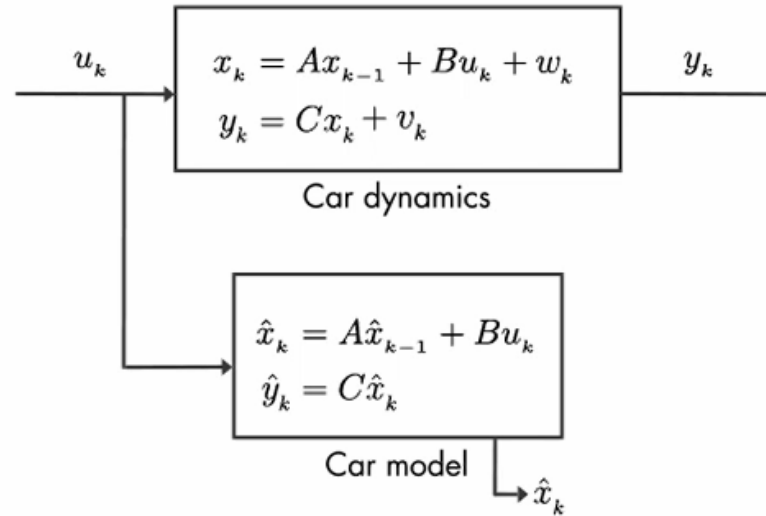


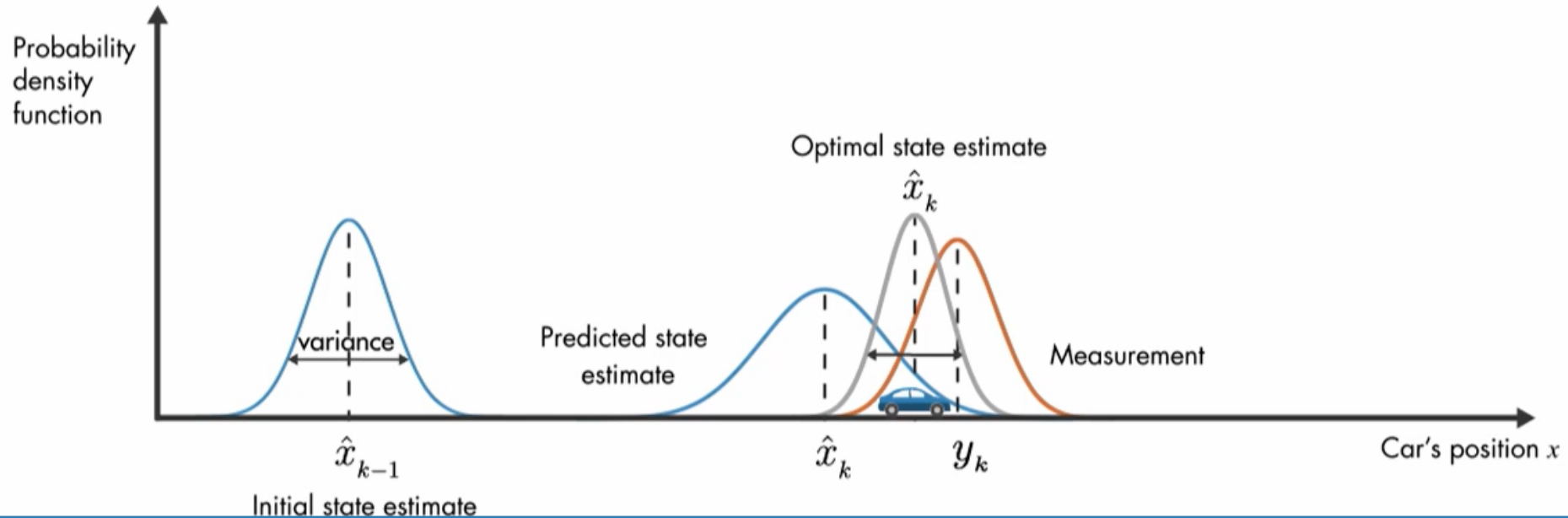
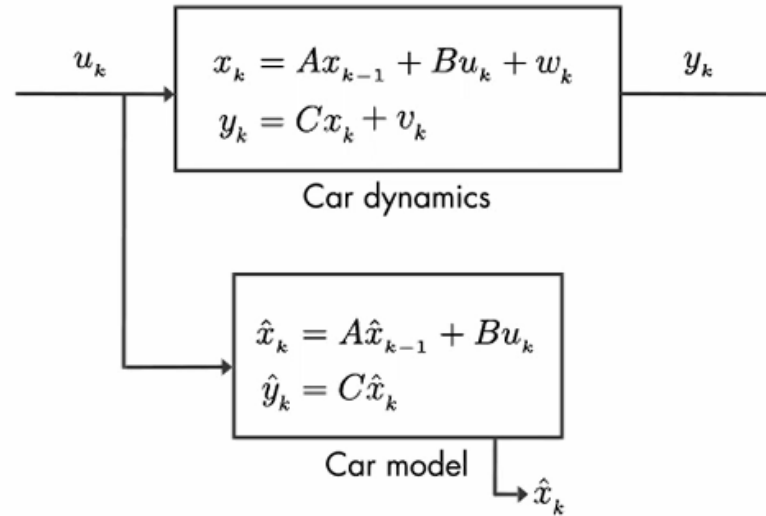


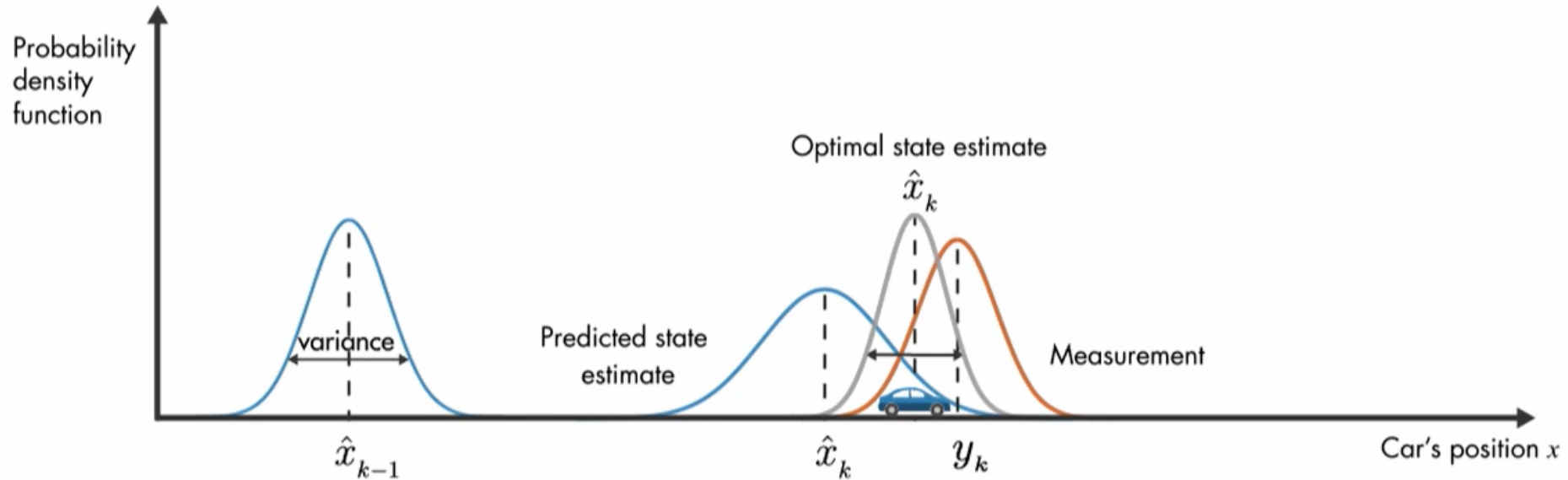
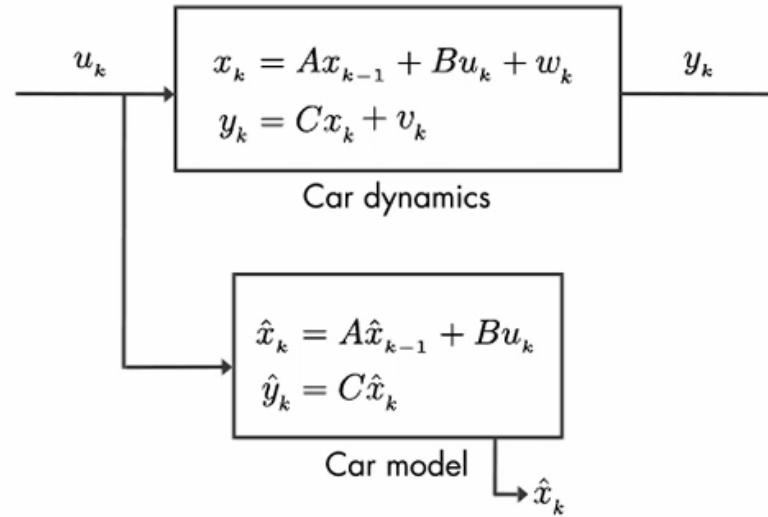












6:30

