



Smoothing a Signal

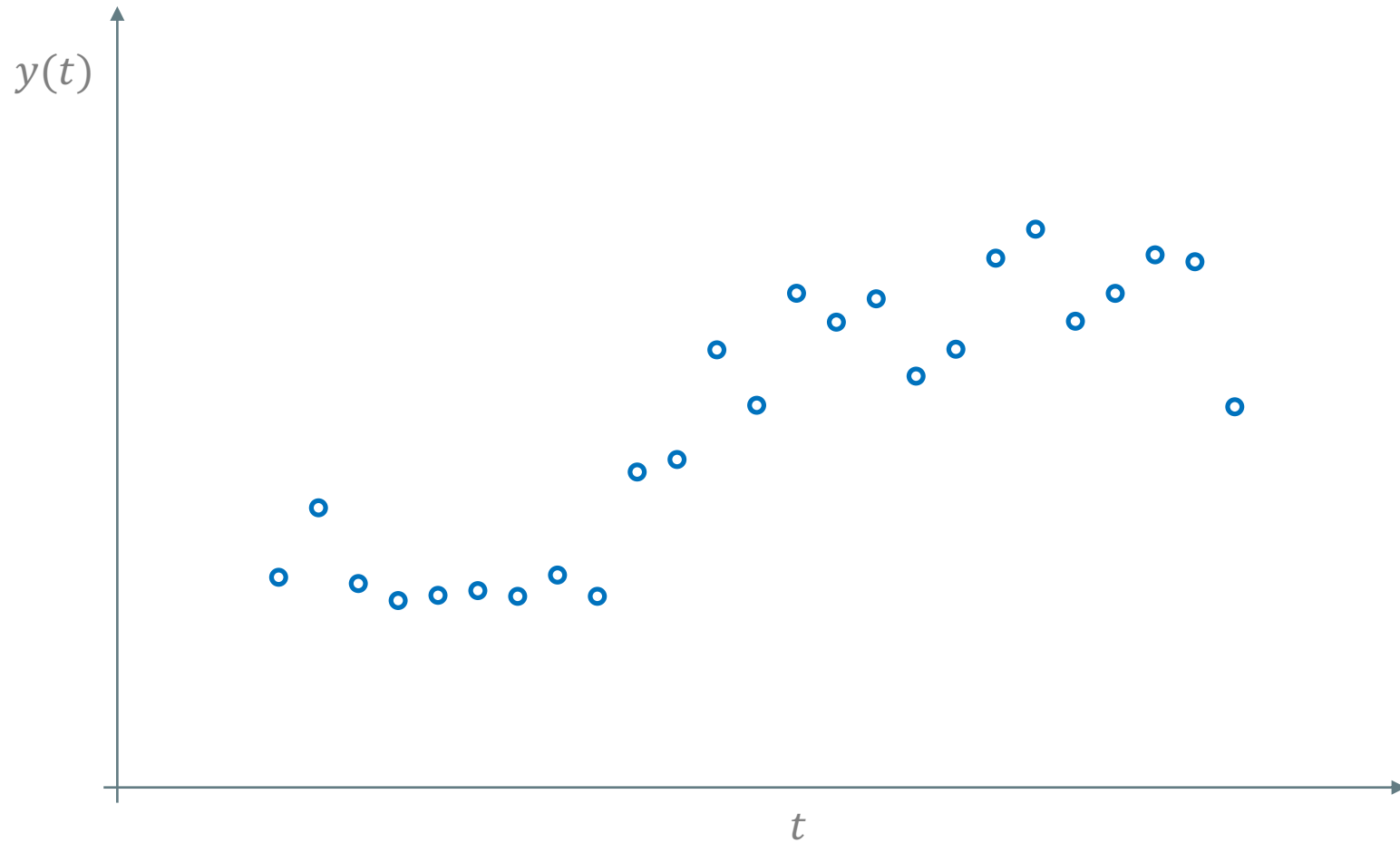
Data Science Lightning Talk

Bill Tubbs

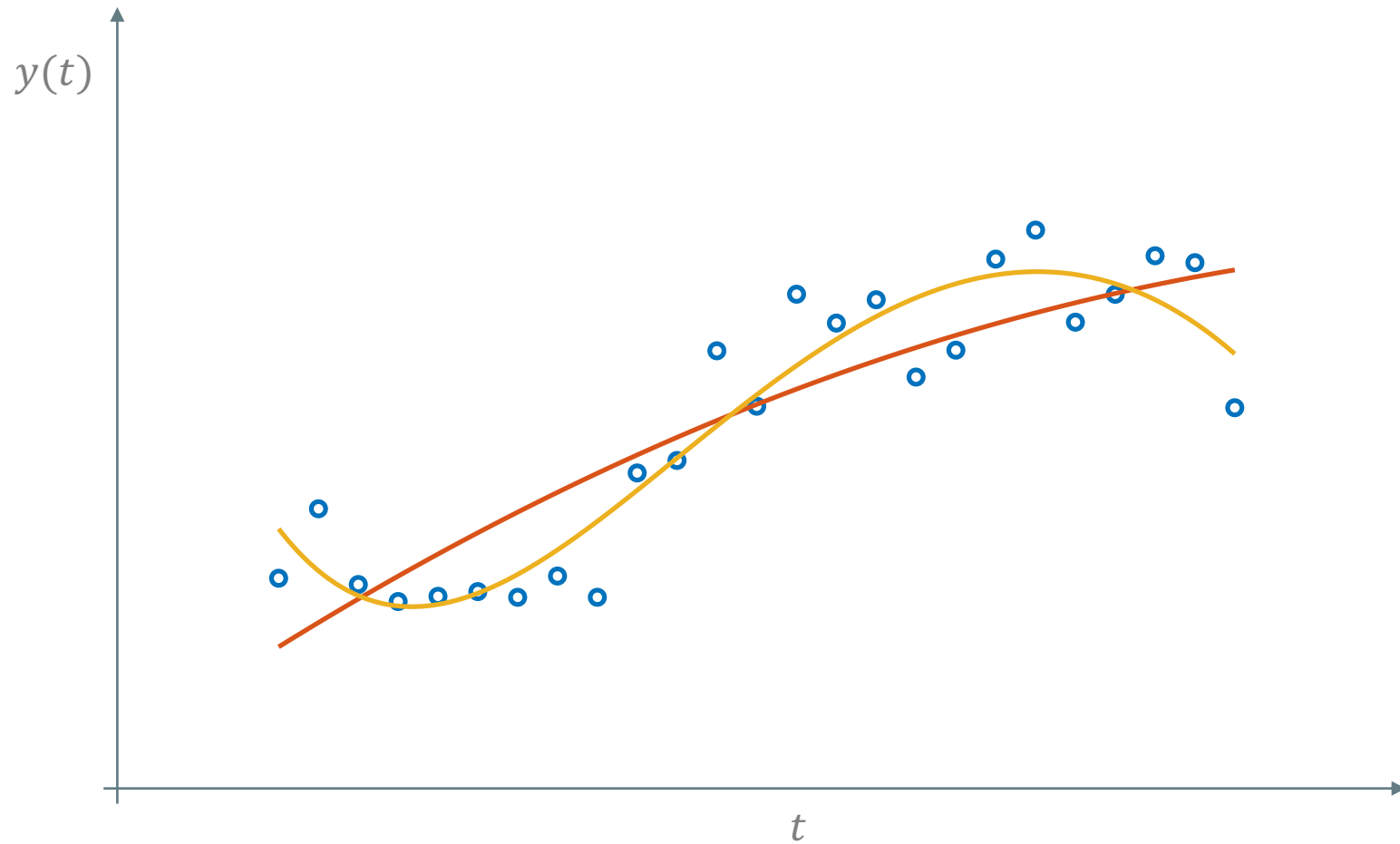
Vancouver, November 9th, 2022



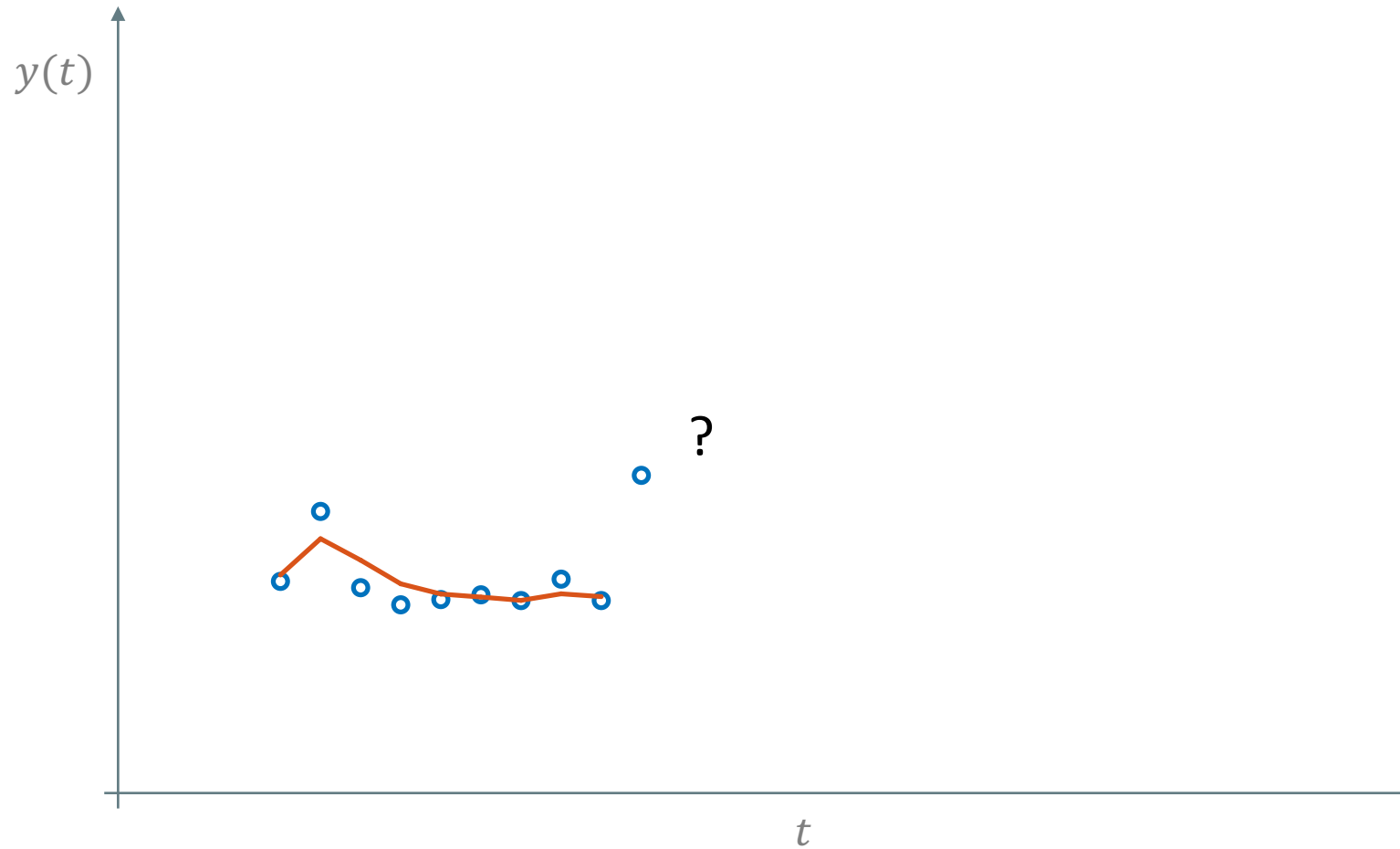
Smoothing a signal



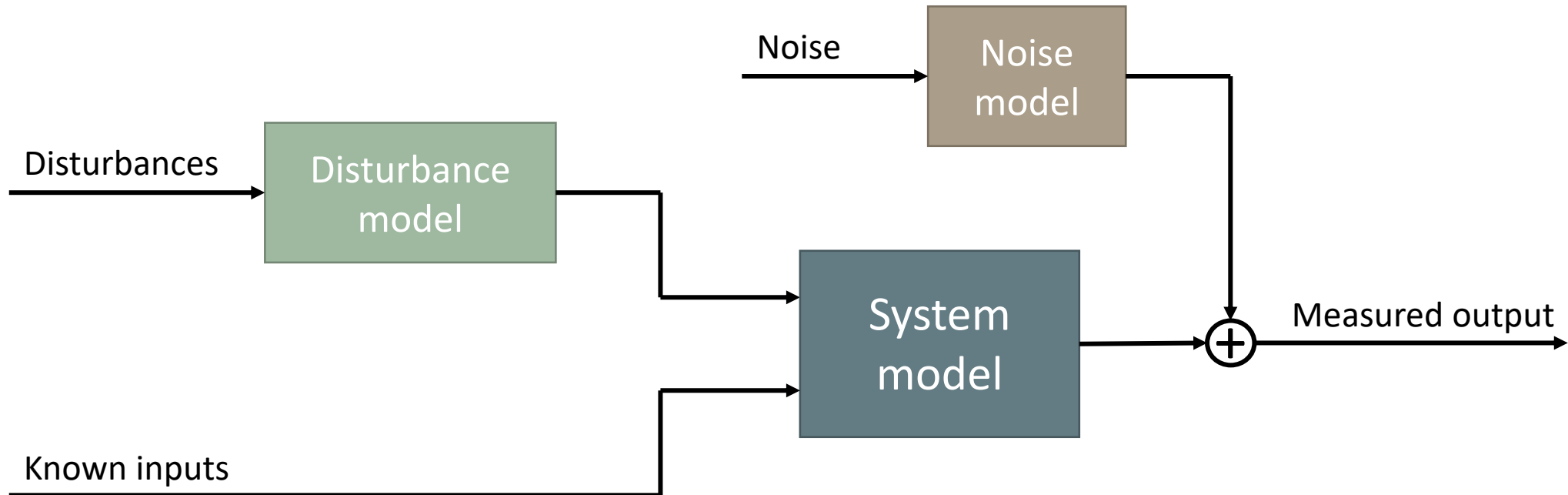
Smoothing a signal



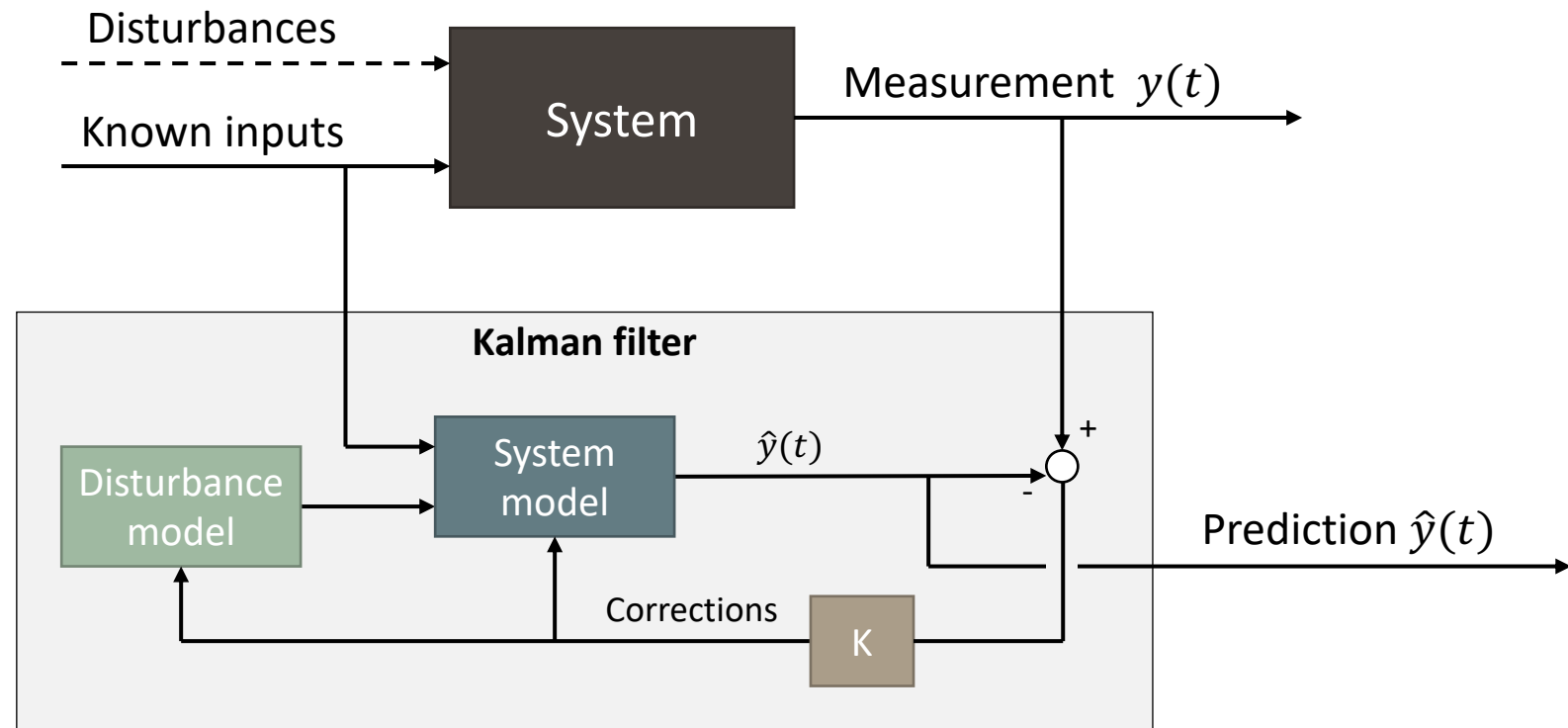
Online estimation (filtering)



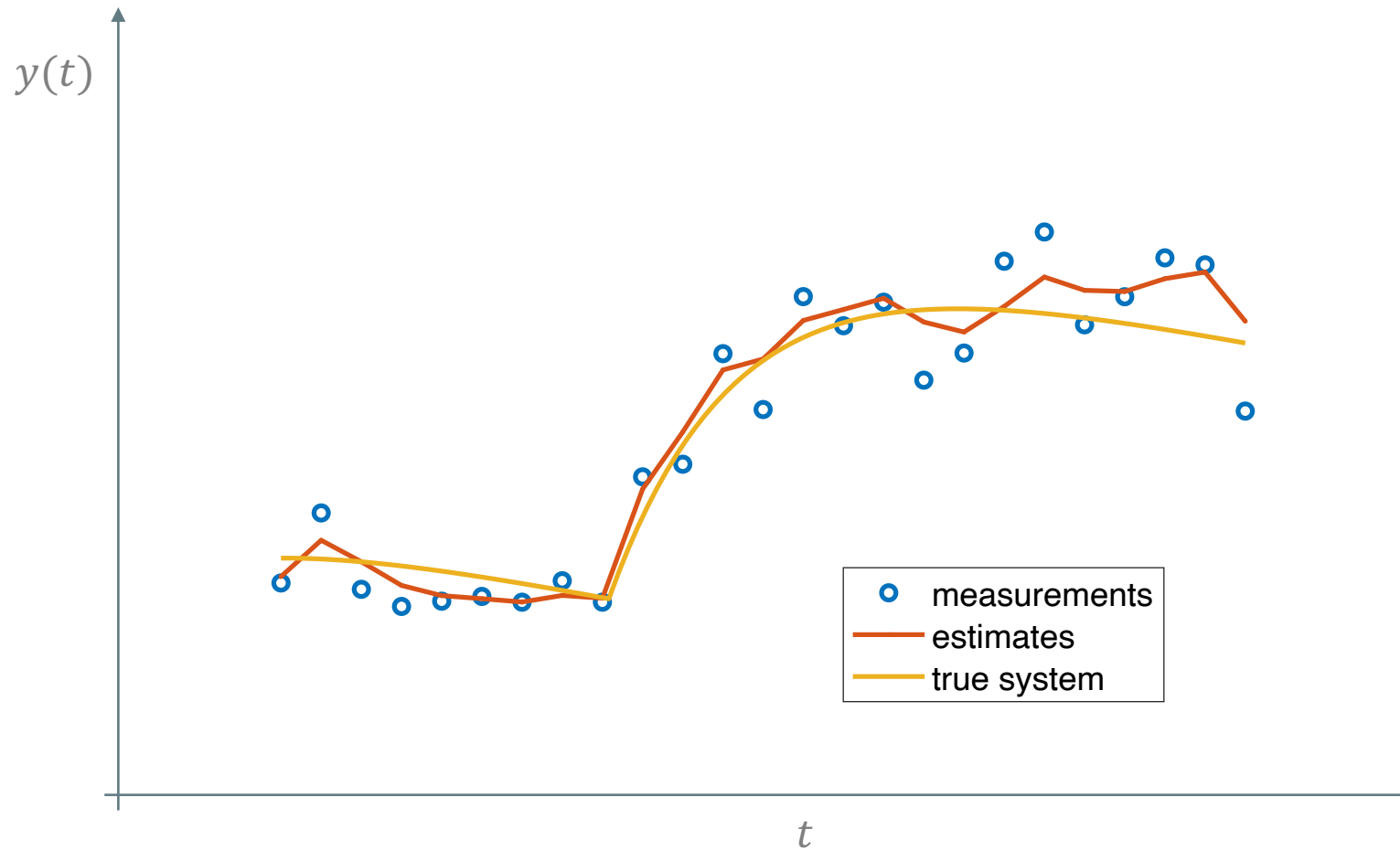
Dynamic model



Kalman filter

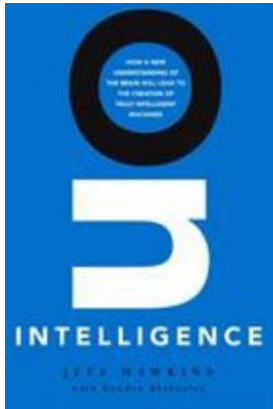


Online estimation (filtering)



Intelligence

Prediction, not behaviour, is the proof of intelligence



Book: On Intelligence
by Jeff Hawkins and Sandra Blakeslee (2005).

Kalman filter?

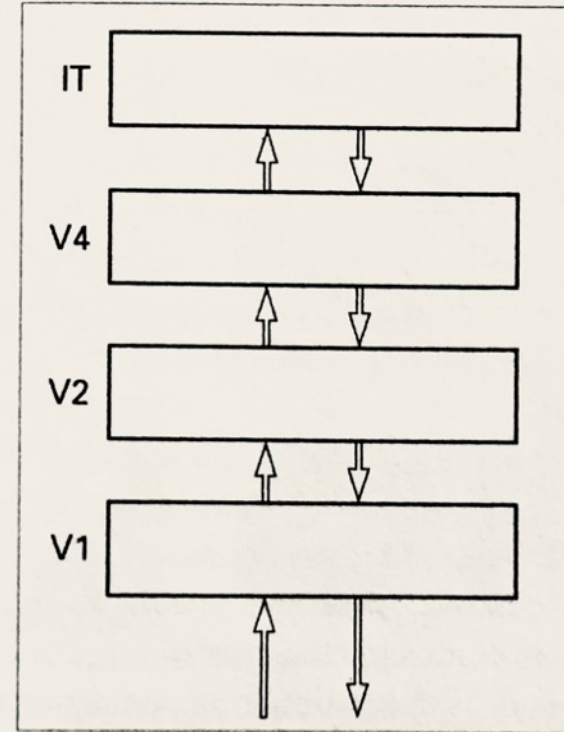


Figure 1. The first four visual regions in the recognition of objects.

Thank you

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References

- Kalman, R. E. (1960). A New Approach to Linear Filtering and Prediction Problems. *Transactions of the ASME--Journal of Basic Engineering*, 82(Series D), 35–45.
- Jeff Hawkins and Sandra Blakeslee (2005). *On Intelligence: How a New Understanding of the Brain Will Lead to the Creation of Truly Intelligent Machines*, Times Books, Henry Holt and Company, New York.

Kalman filter details

