Summary of this week

- This week, you learned:
  - Advantages of a good state estimator compared with a (mathematically or computationally) simple state estimator
  - A careful definition of SOC that is compatible with a physical understanding
  - Limitations of simple voltage-based and current-based (coulomb counting) methods for SOC estimation
  - The promise of better estimates from model-based estimation
- Accordingly, we reviewed probability concepts to enable future studies

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Where from here?

- Next week, you will learn about "Gaussian sequential probabilistic inference" state estimation
- Under certain assumptions, this gives optimal (minimum mean-squared error) estimate of system state even when measurements contain noise
- Will see that this solution has two primary steps, each having three sub-steps (six steps total)
- Will apply these steps to derive linear Kalman filter
- In following weeks, will apply these steps to derive nonlinear extended Kalman filter and sigma-point Kalman filter as well

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Credits

Credits for photos in this lesson

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