## Summary of this week

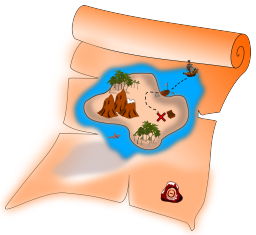
- This week, you learned some techniques to make the Kalman filter “bulletproof” (how to make it work under a wide range of circumstances, including those not anticipated or permitted in its derivation):
  - You learned how to improve its numeric robustness.
  - You learned how to increase its precision.
  - You learned how to initialize and tune a KF.
  - You learned how to estimate noise biases if they are not zero mean.
  - You learned how to adjust the filter equations when the process and sensor noises are cross-correlated.
  - You learned how to adjust the filter equations when the process and/or sensor noises are autocorrelated.





## Where to from here?

- Next week, you will learn some some additional extensions and refinements to the linear Kalman filter.
  - You will learn how to detect faulty sensor measurements.
  - You will learn how to increase speed when the measurement is a vector (not a scalar) quantity.
  - You will learn how to simplify the Kalman-filter equations if a suboptimal solution is acceptable and speed must be maximized.
  - You will learn how to use a Kalman filter to predict the state multiple timesteps into the future.
  - You will learn how to implement a Kalman smoother.







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