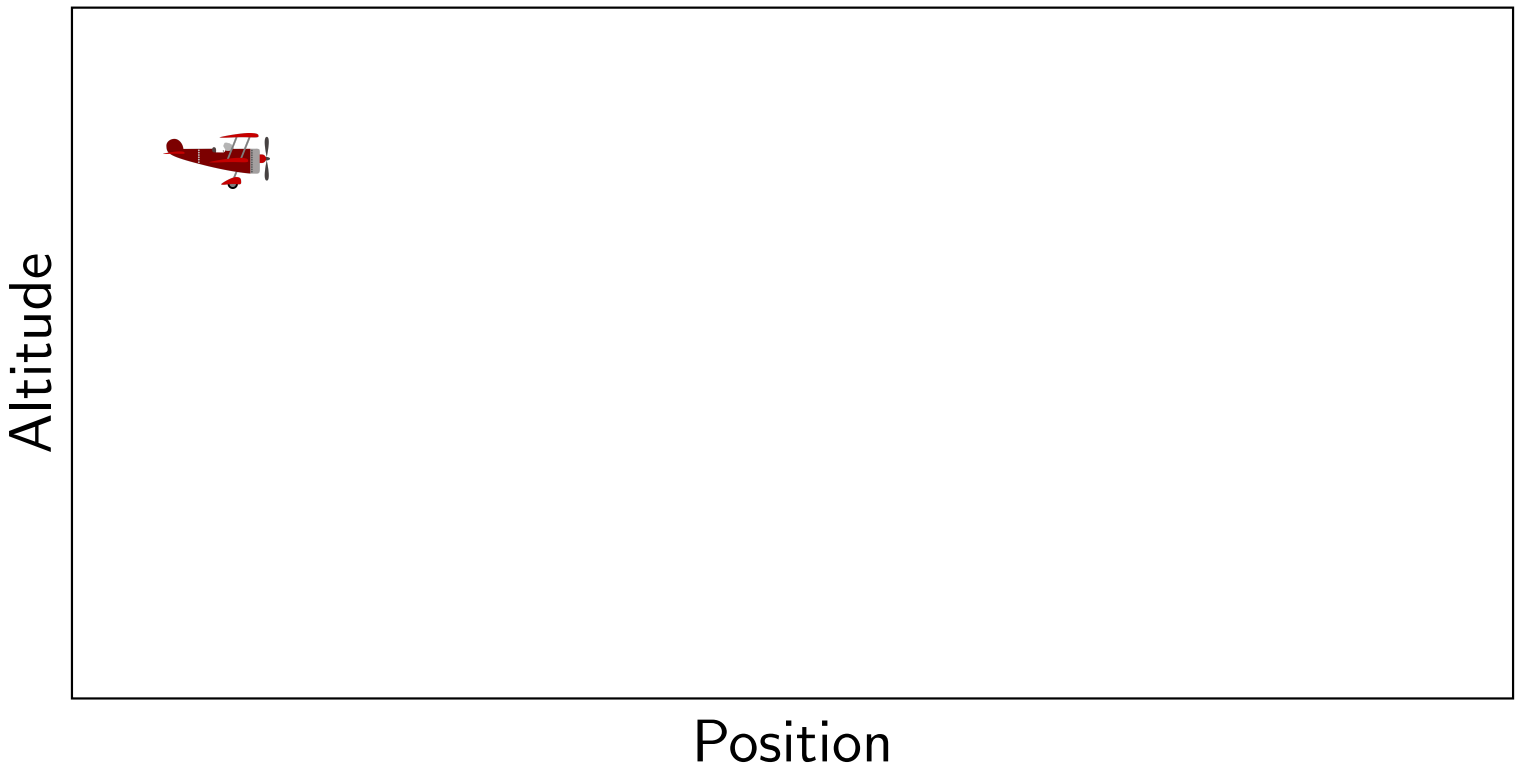
A Sequential Monte Carlo Example

Daniel Lundén

April 16, 2020

A Model for Aircraft Localization



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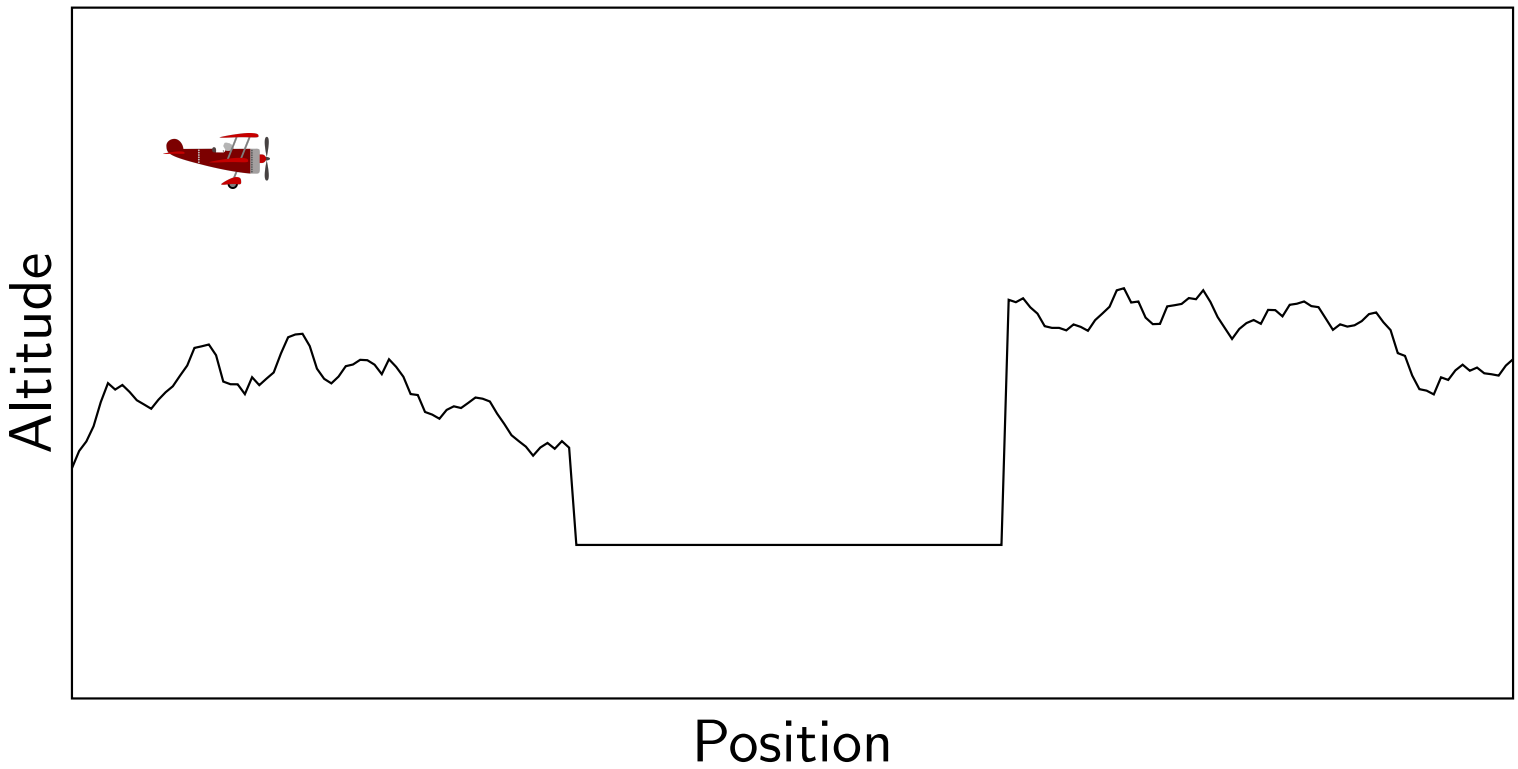

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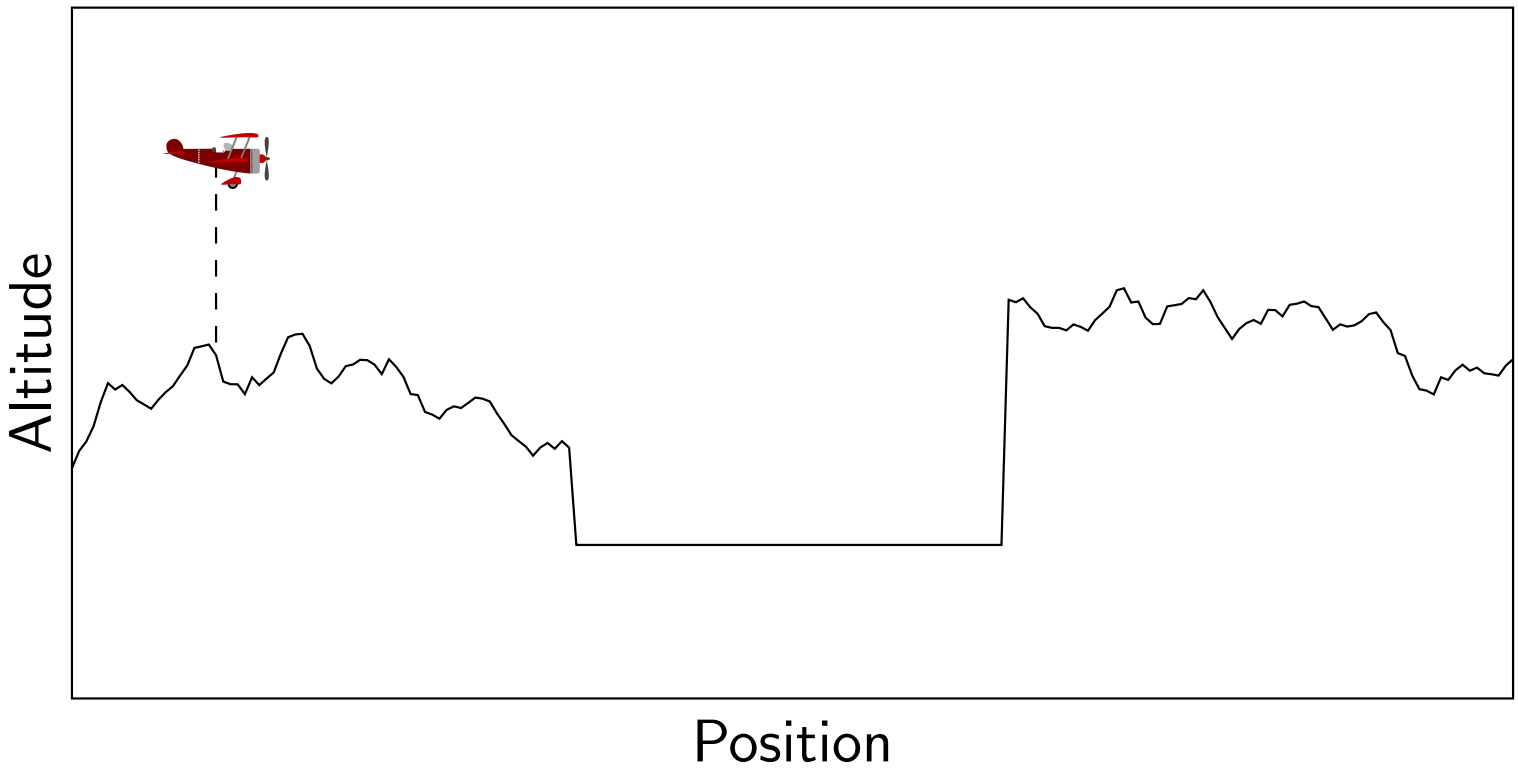

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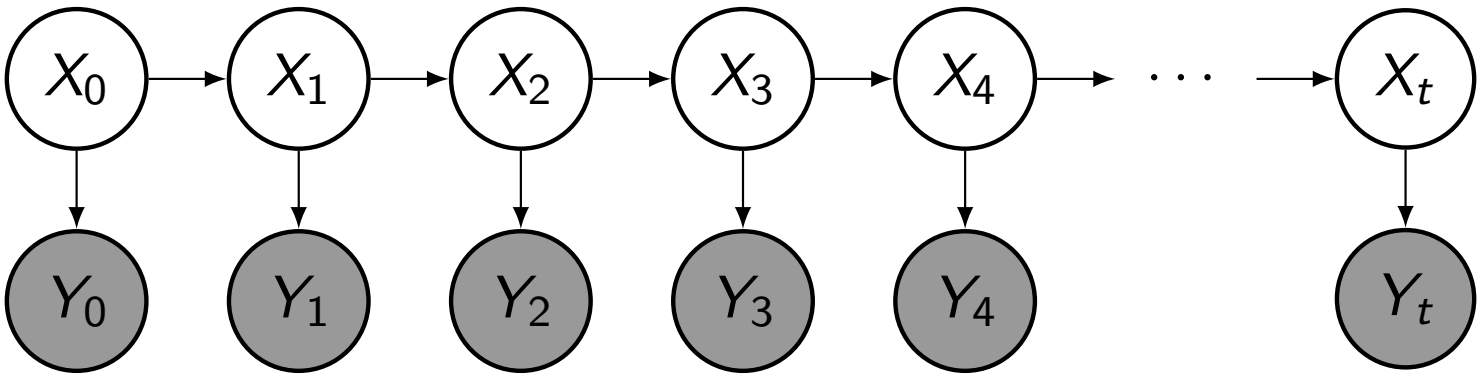
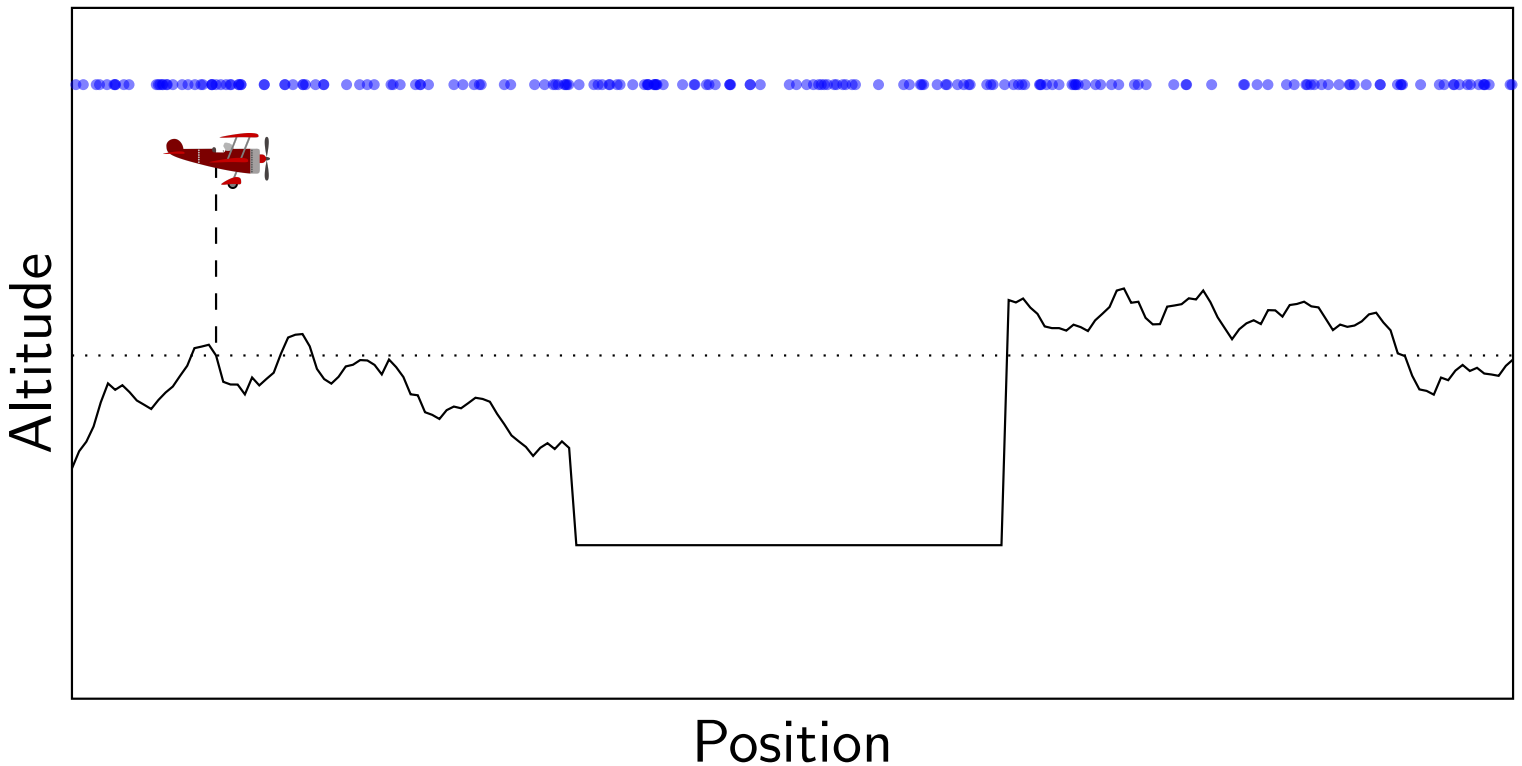


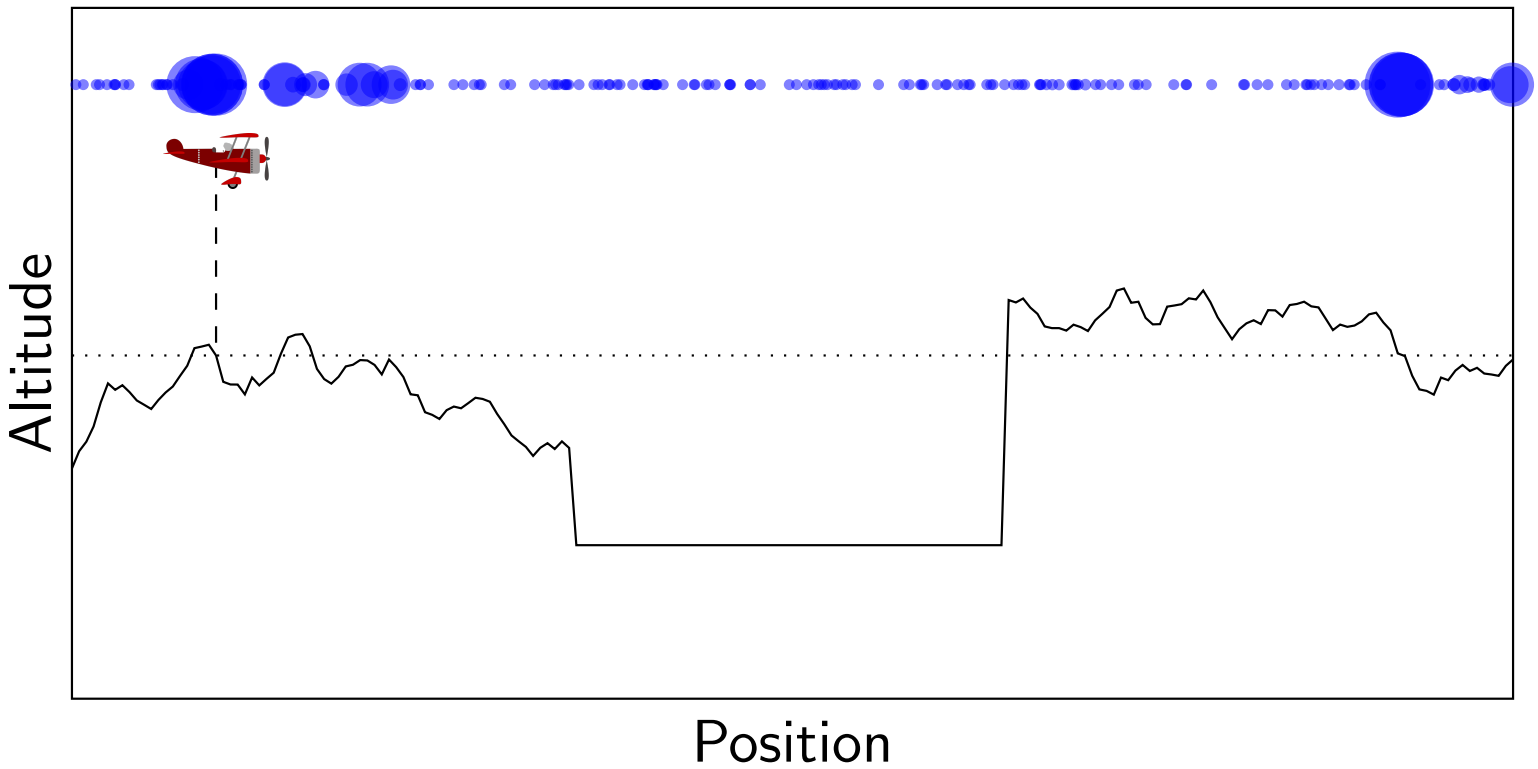
Importance sampling

Initialize 200 samples from X_0



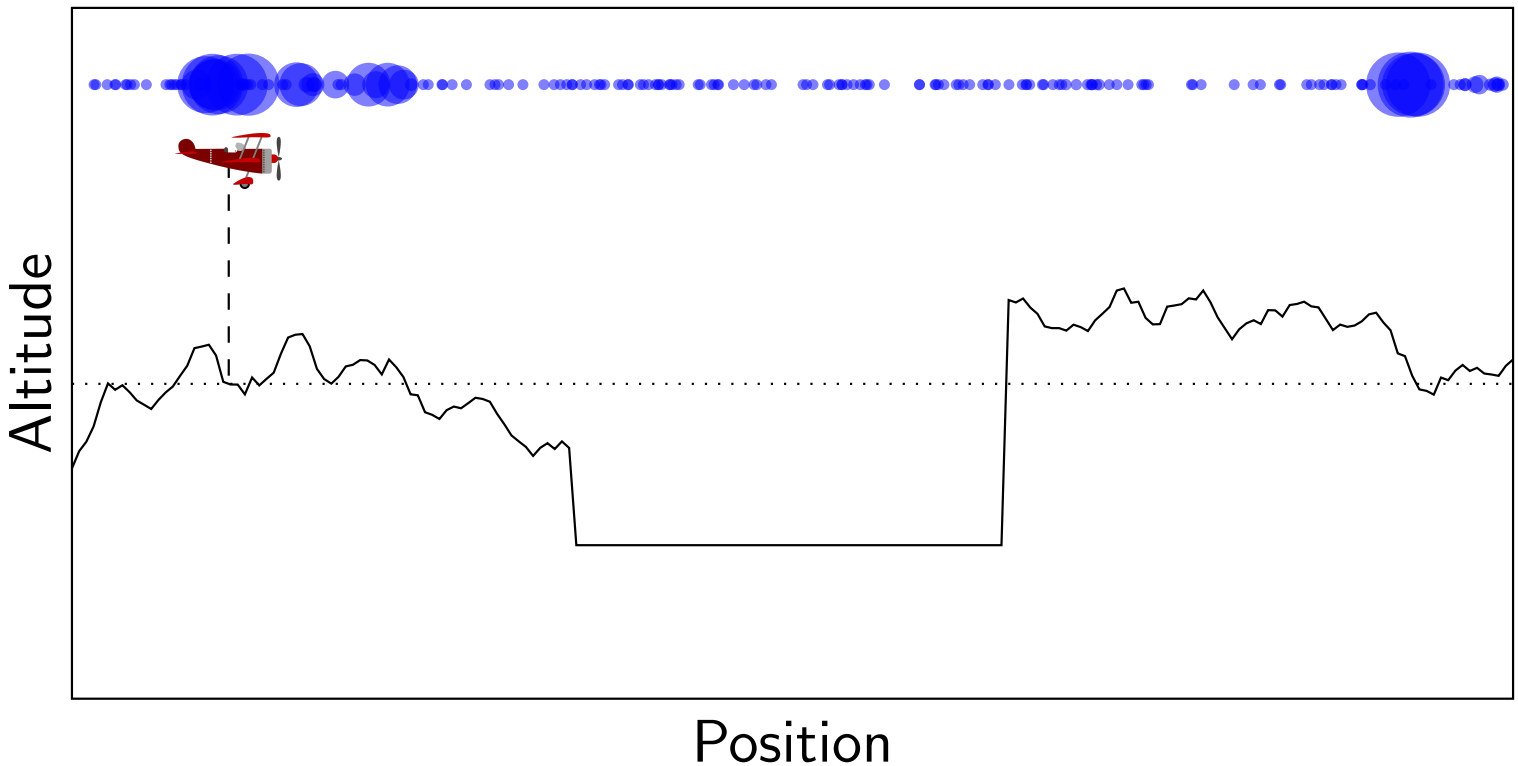
Importance sampling

Weigh samples using observation model



Importance sampling

Propagate samples using transition model



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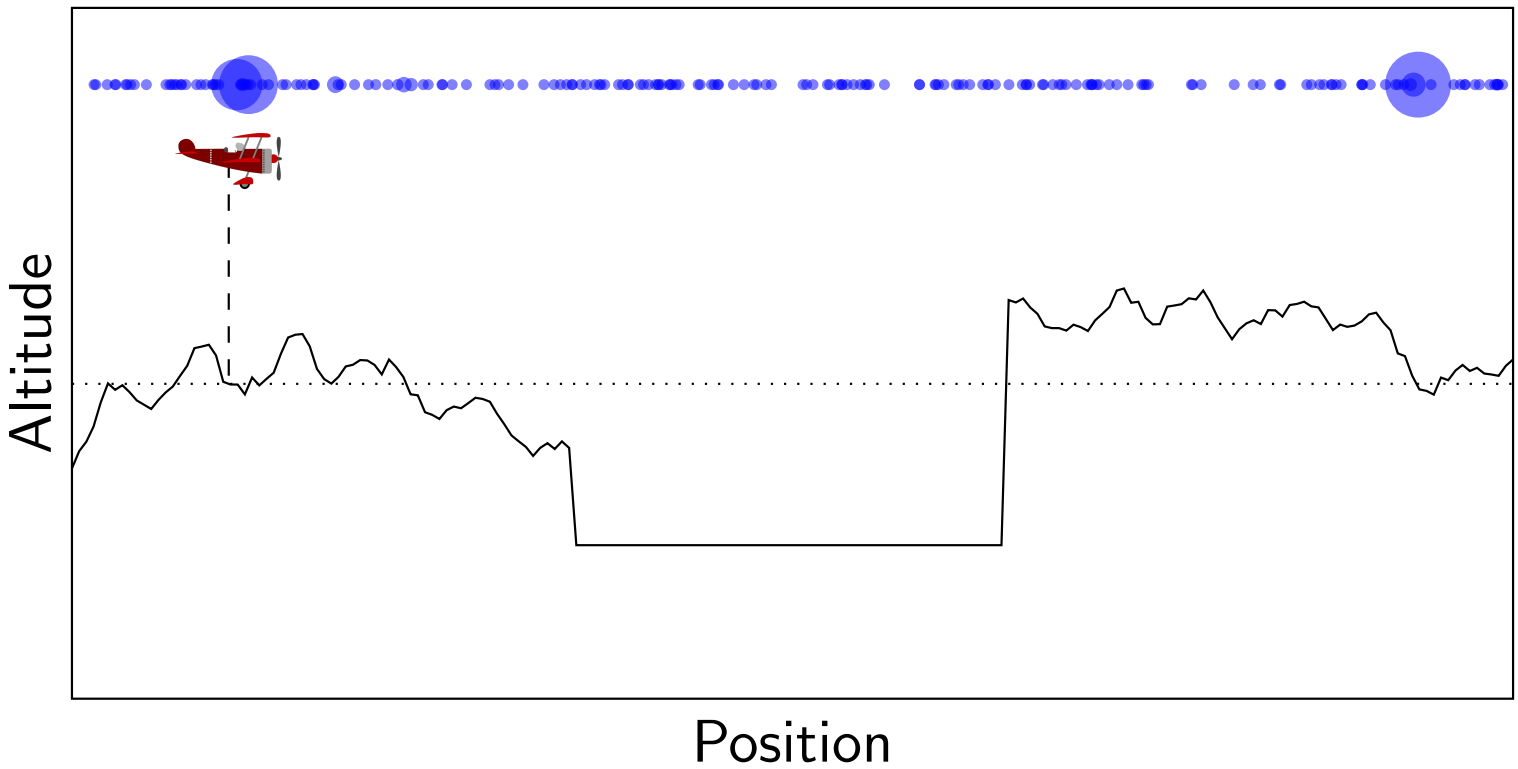

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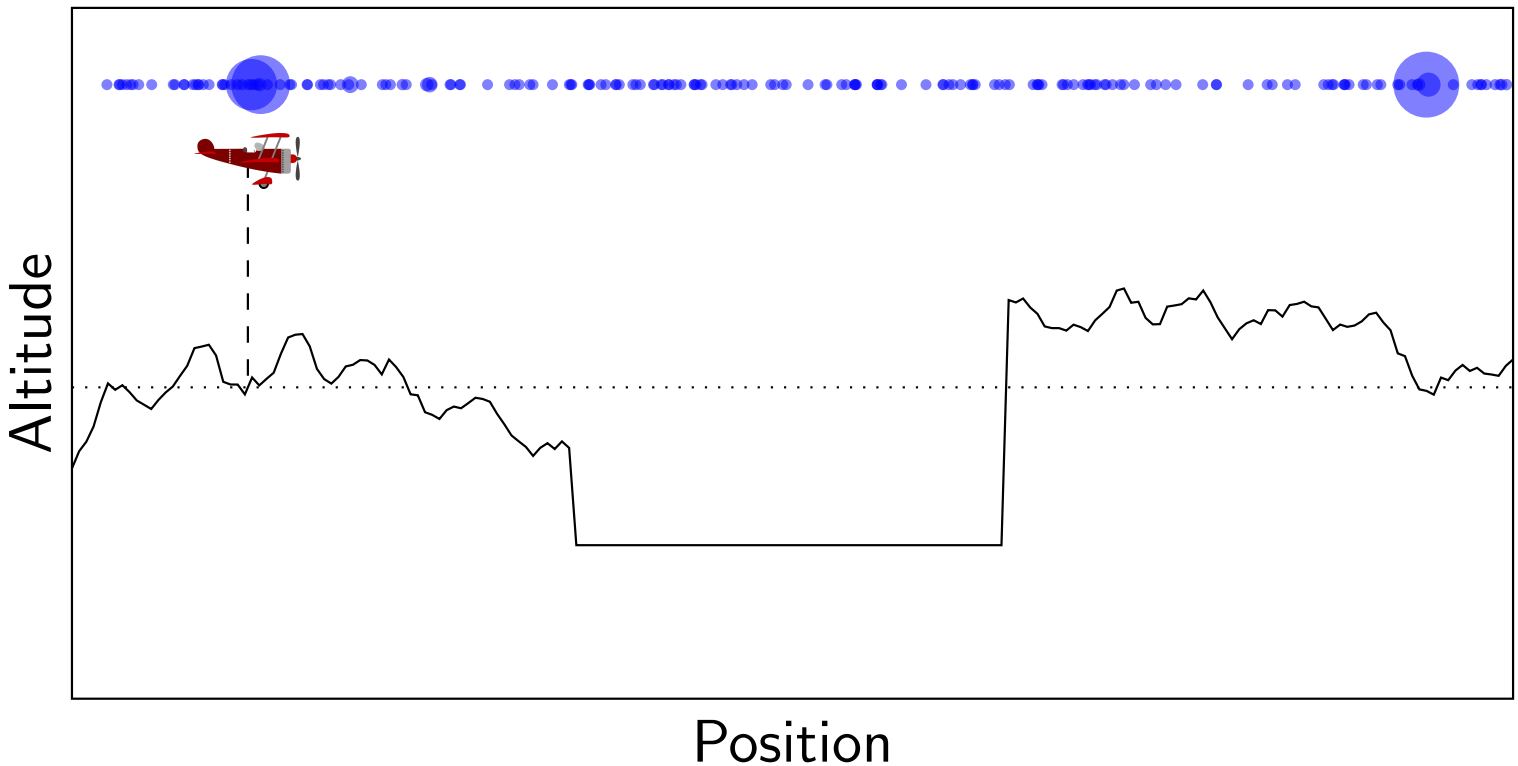

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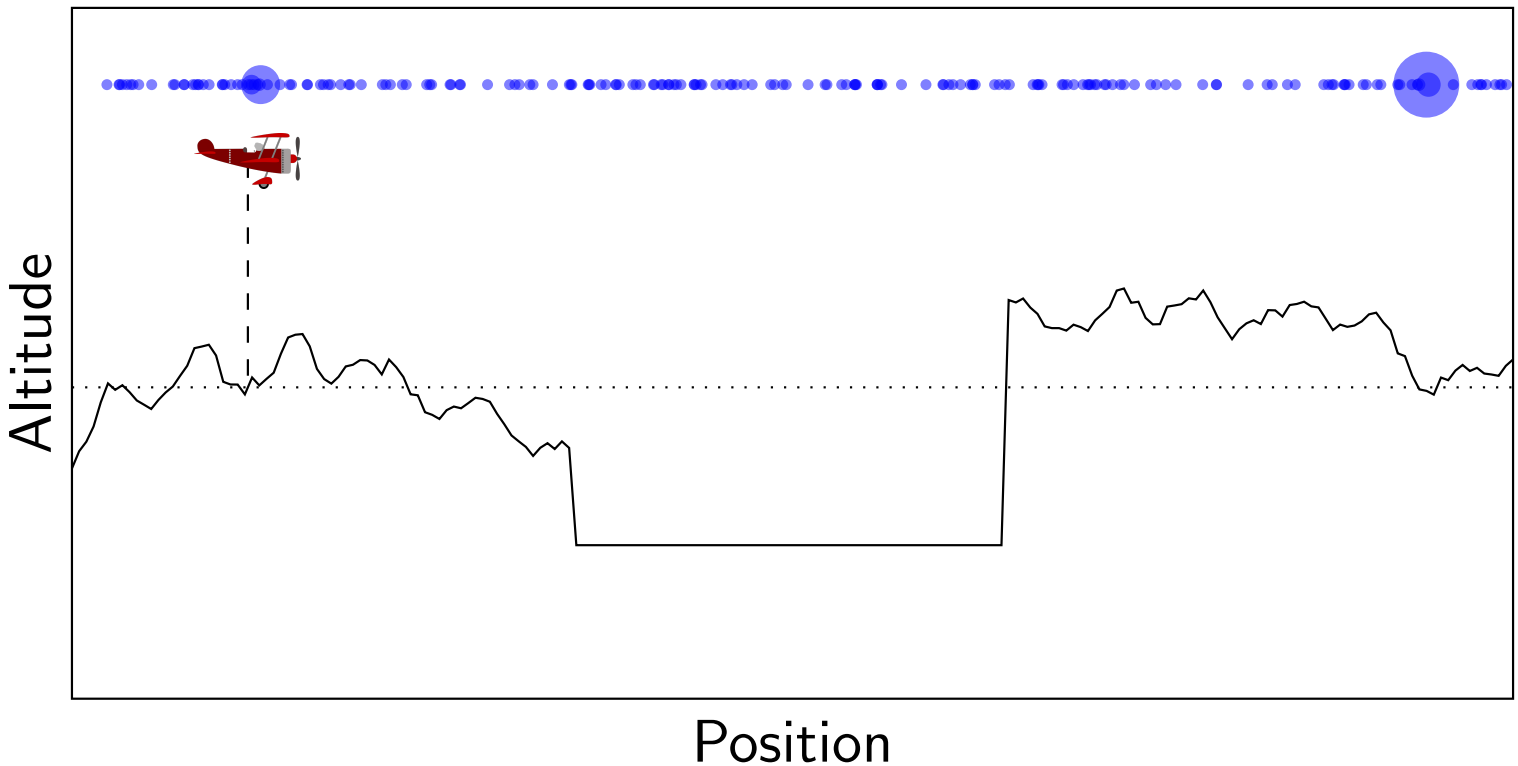

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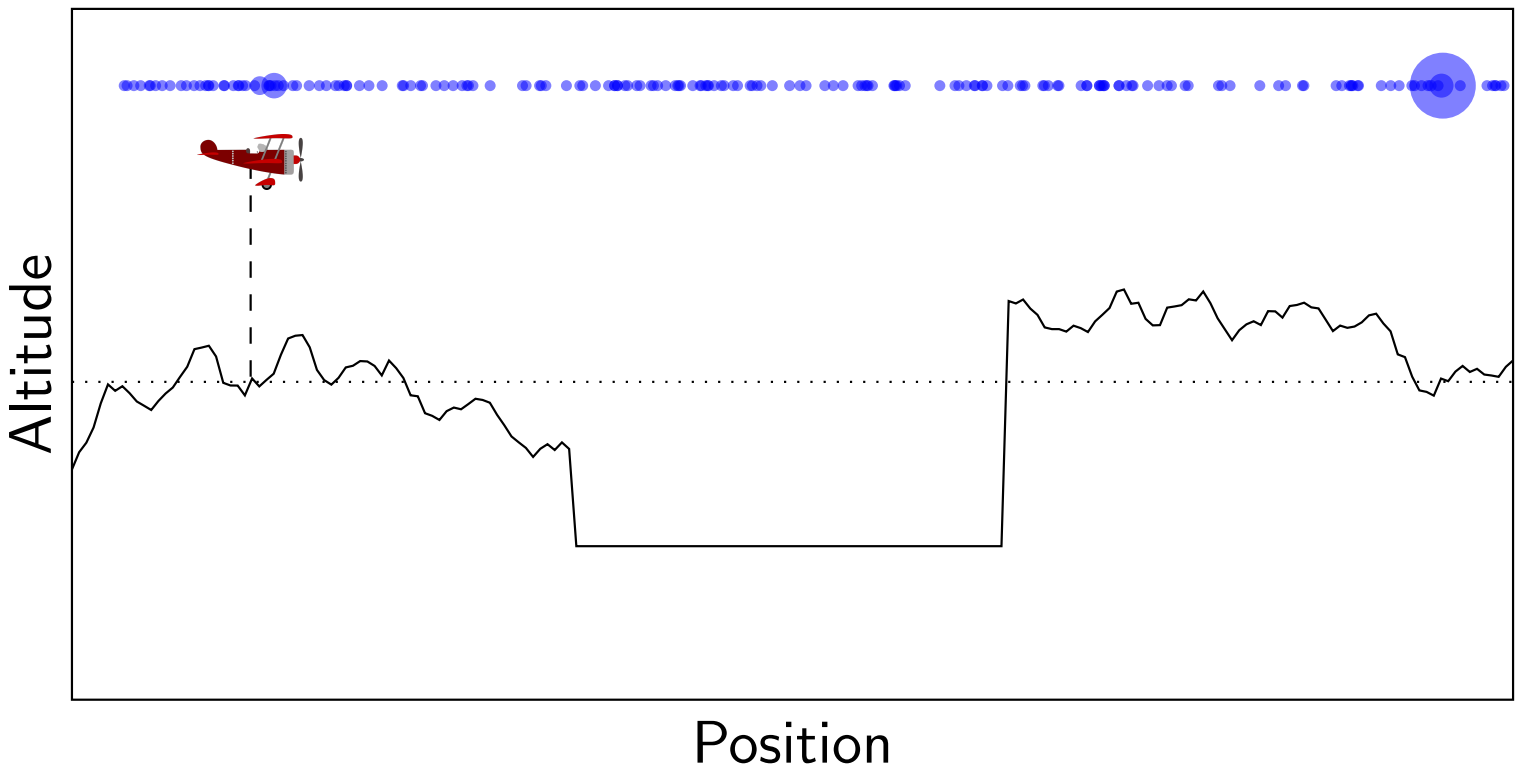

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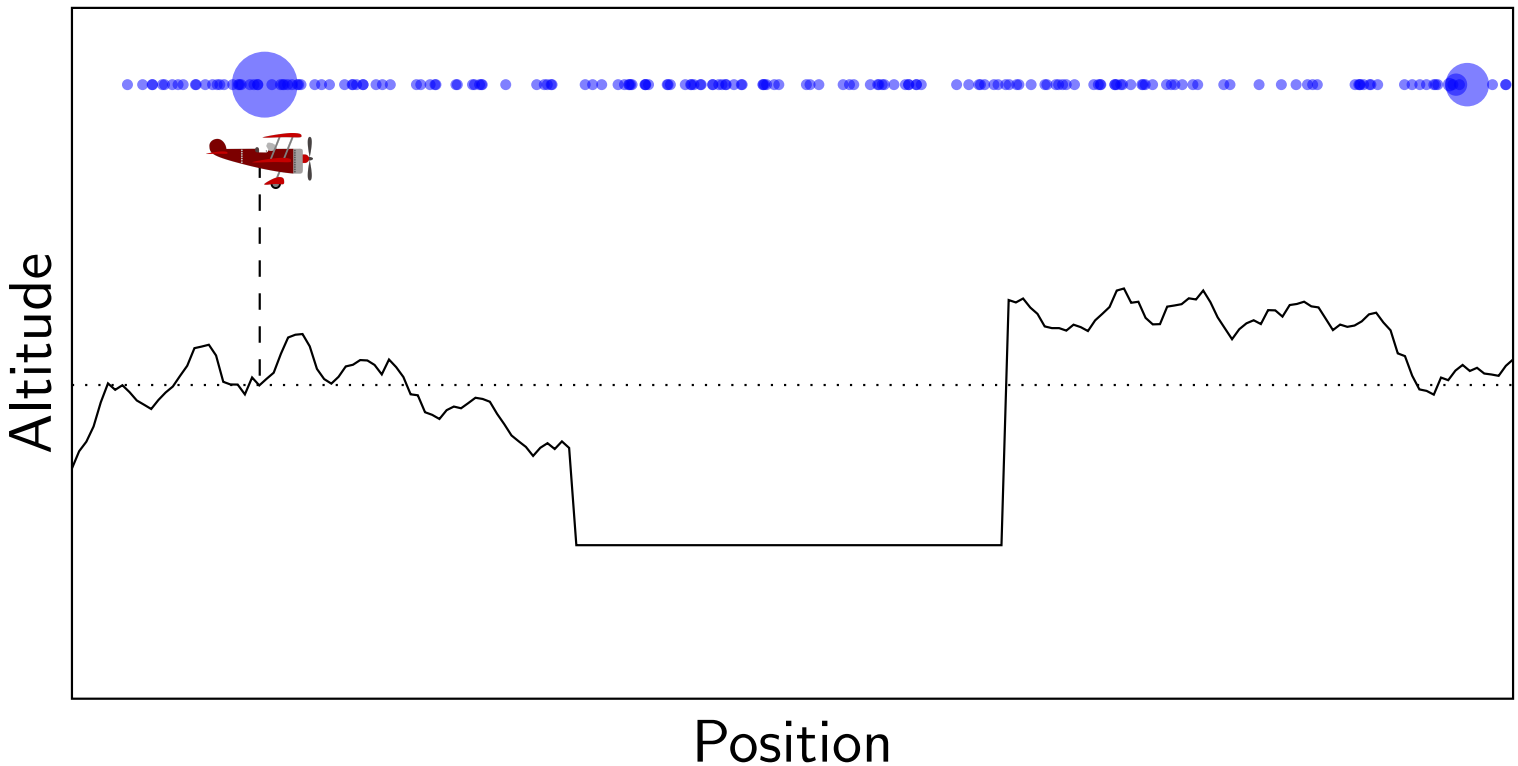

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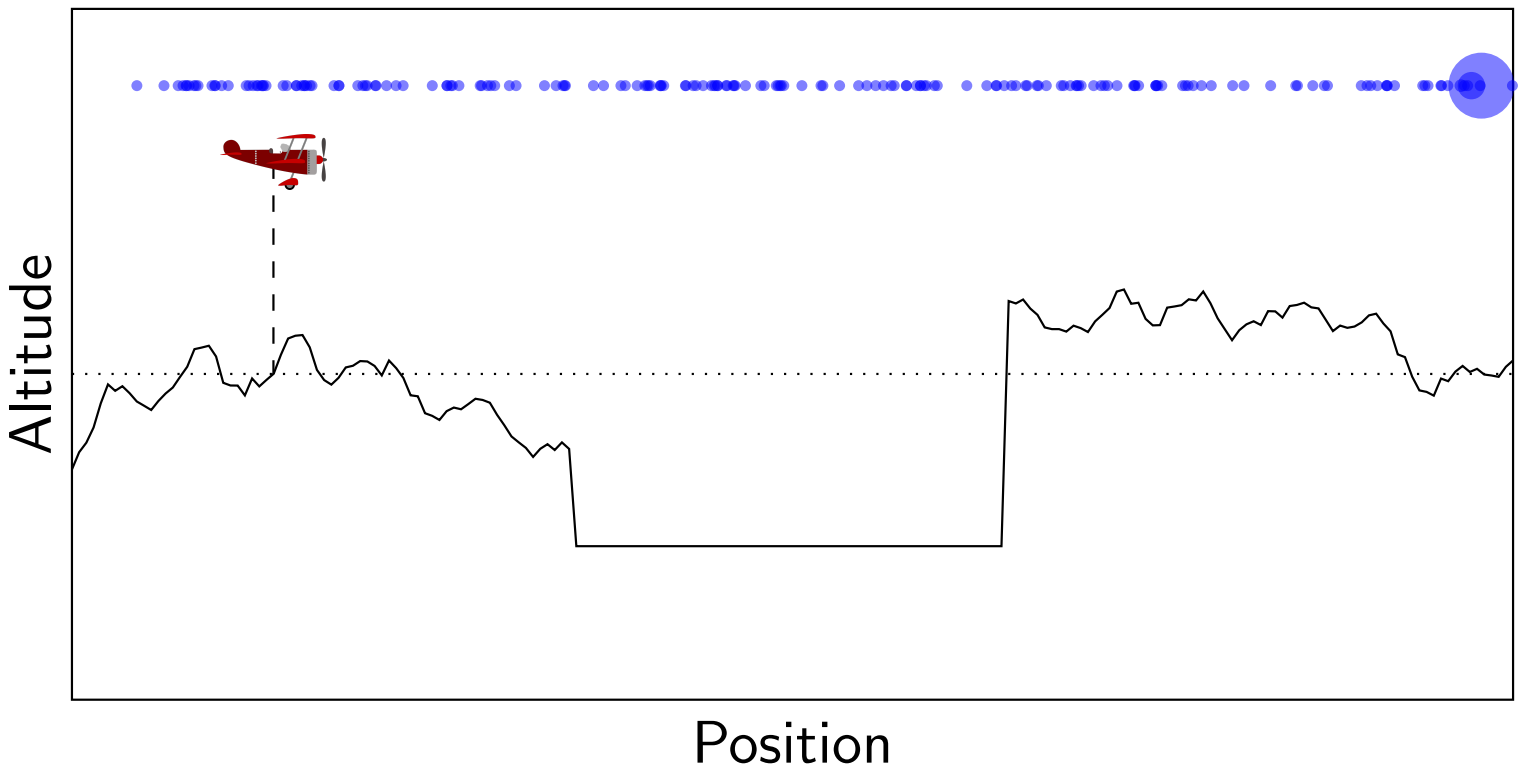

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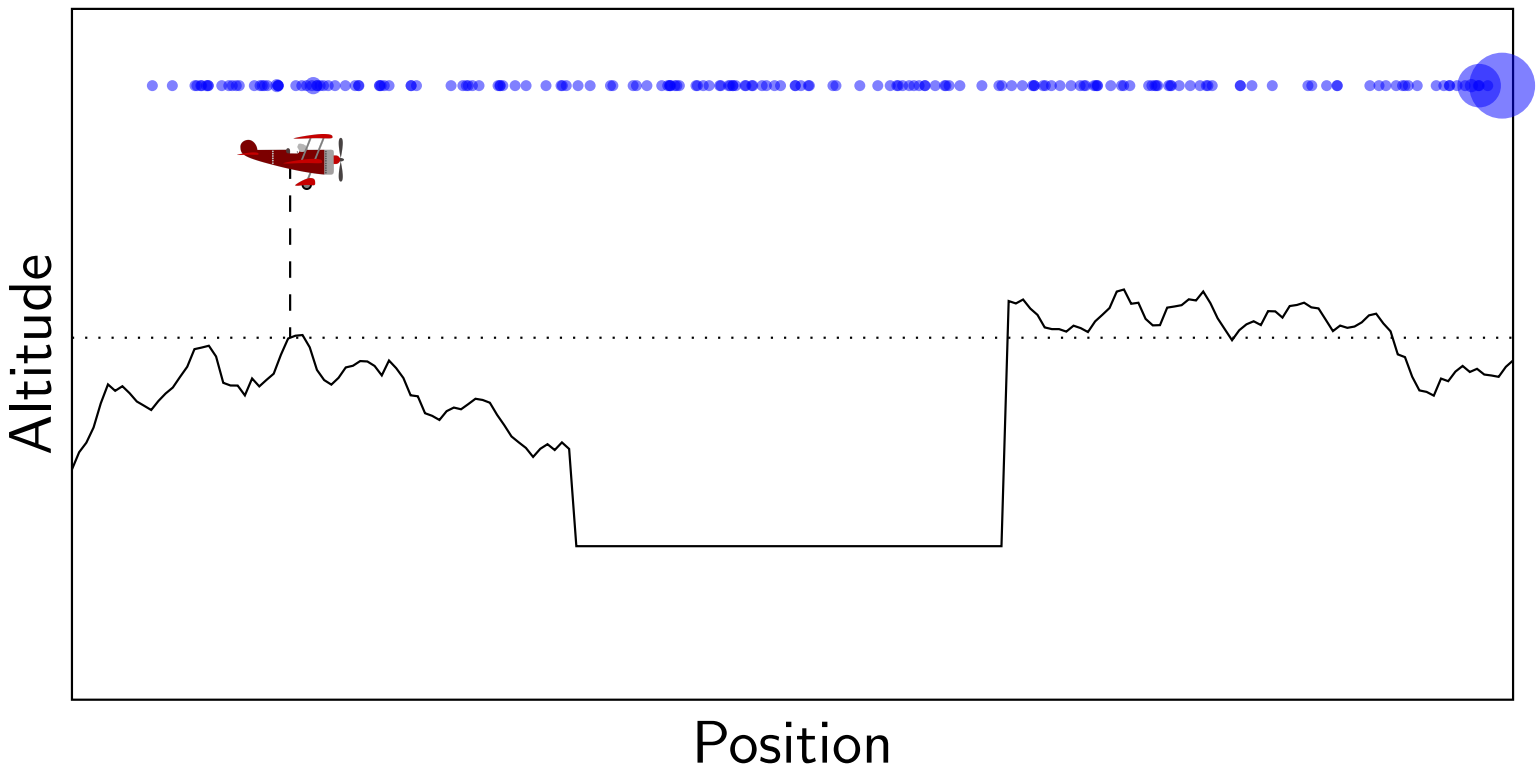

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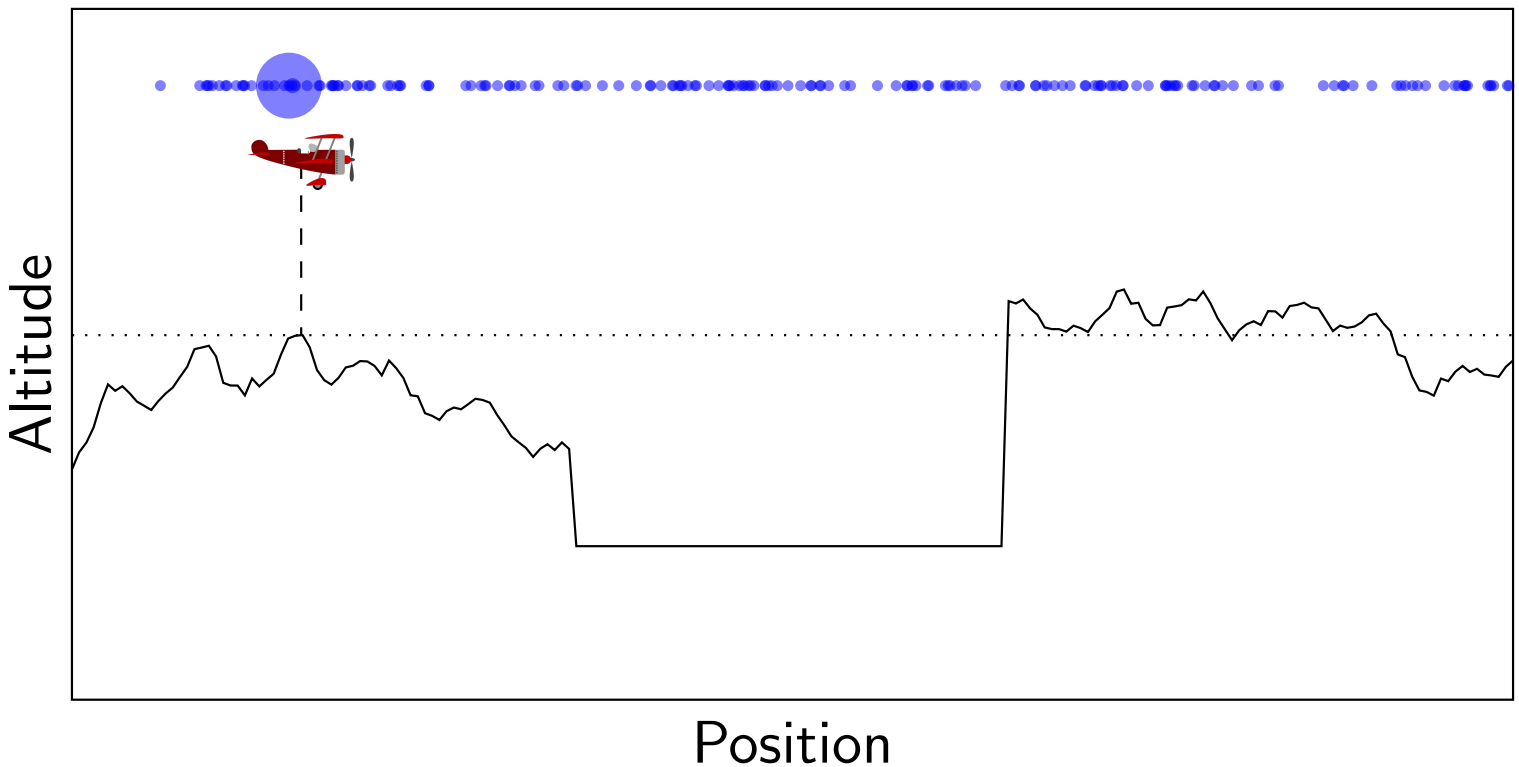

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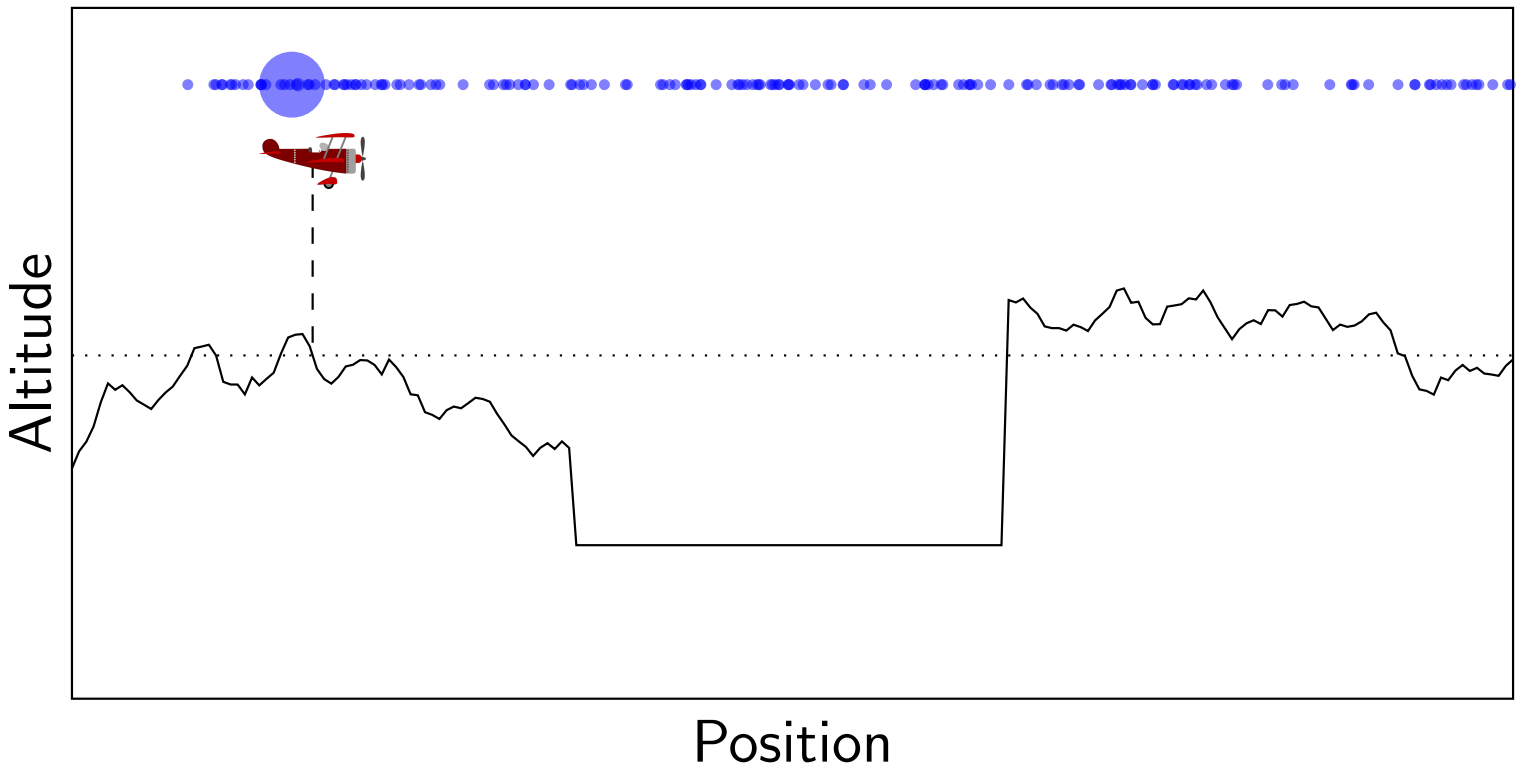

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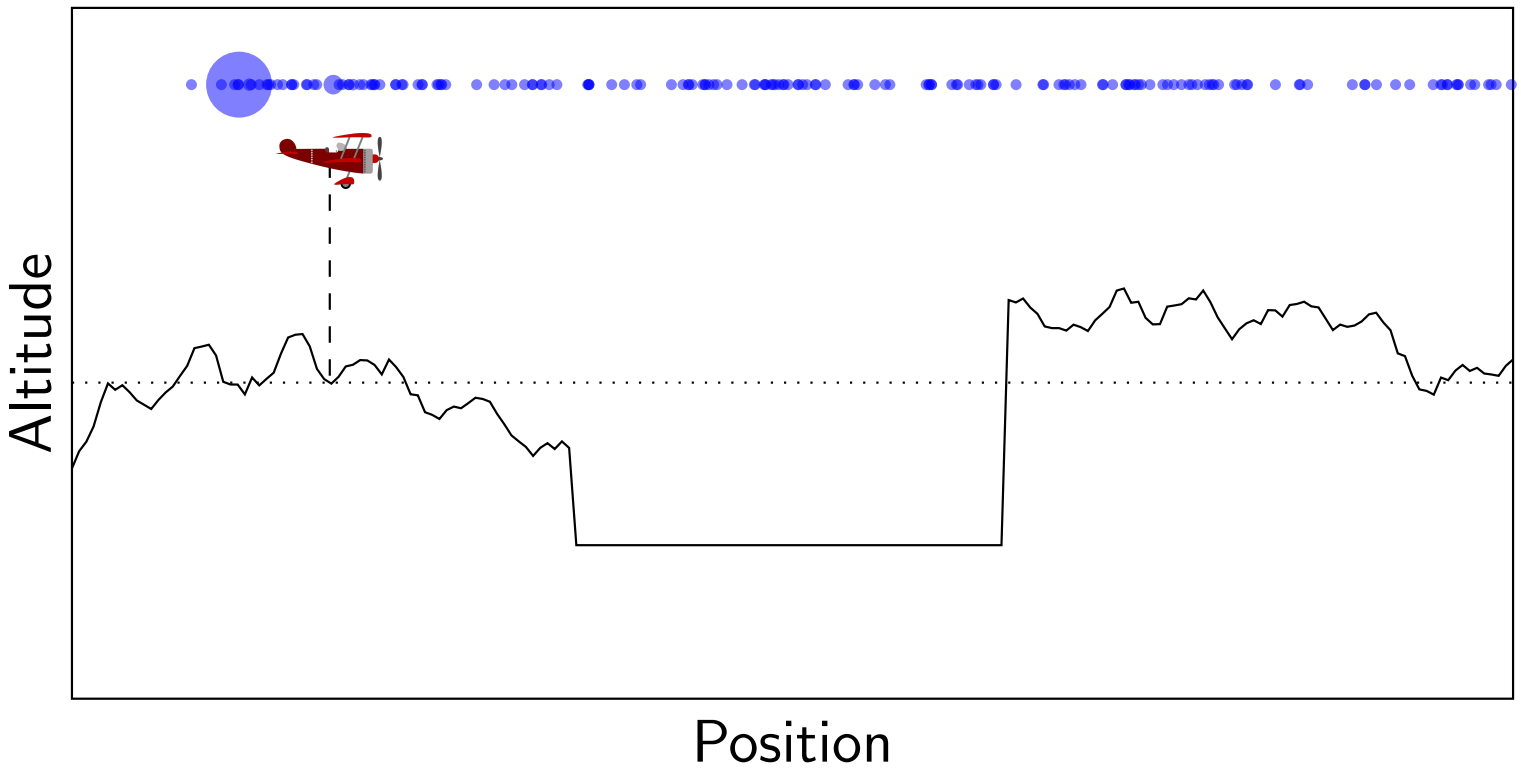

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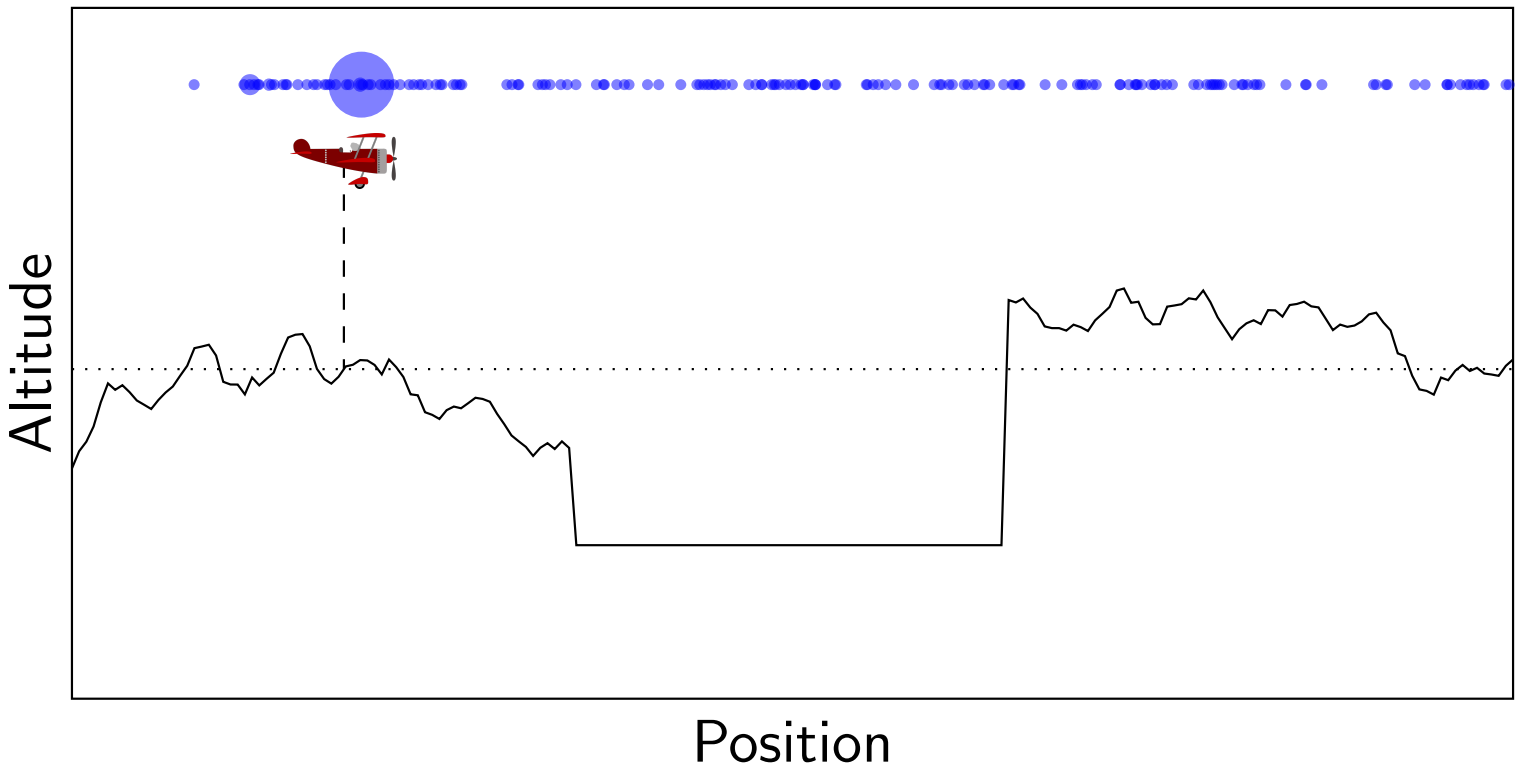

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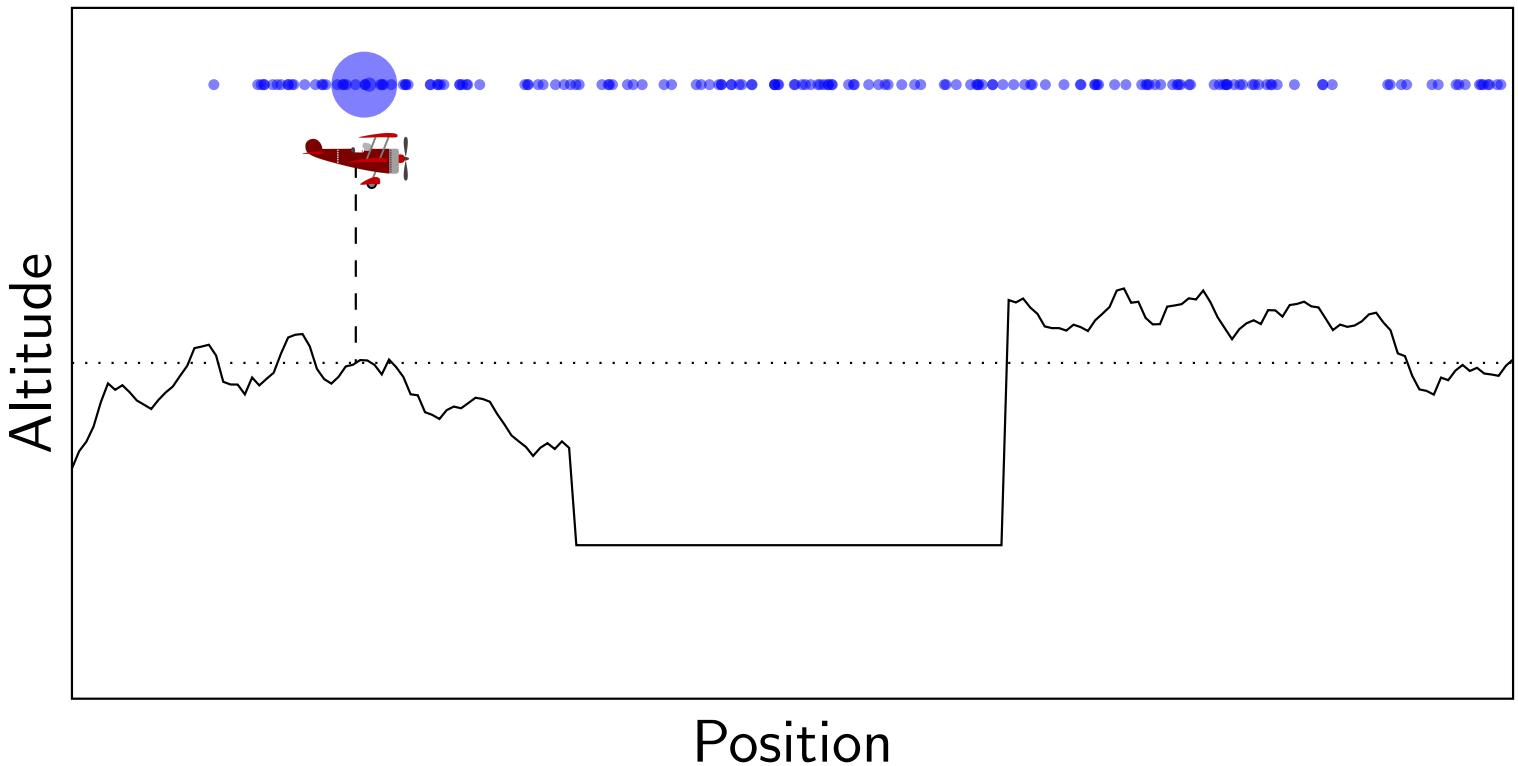

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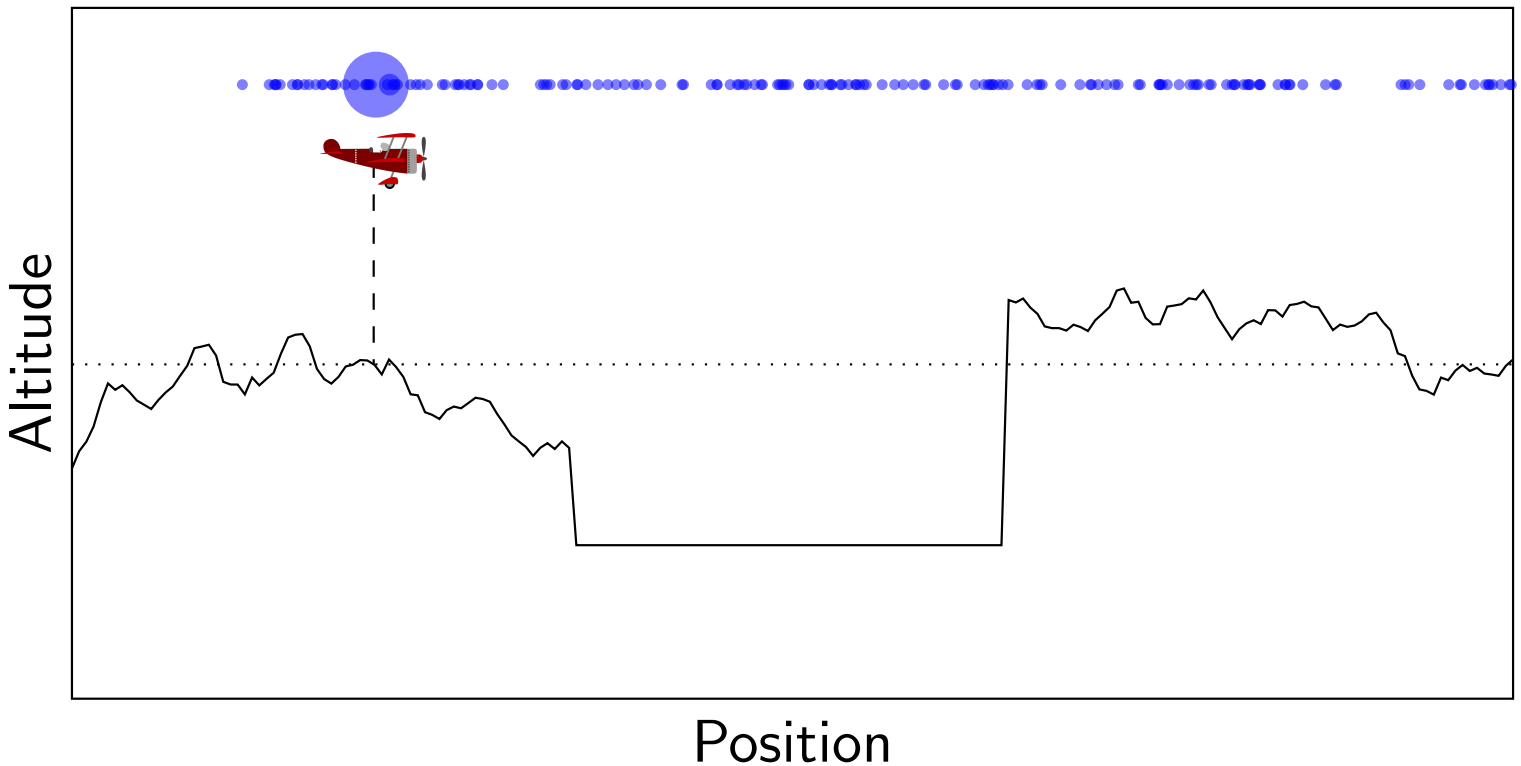

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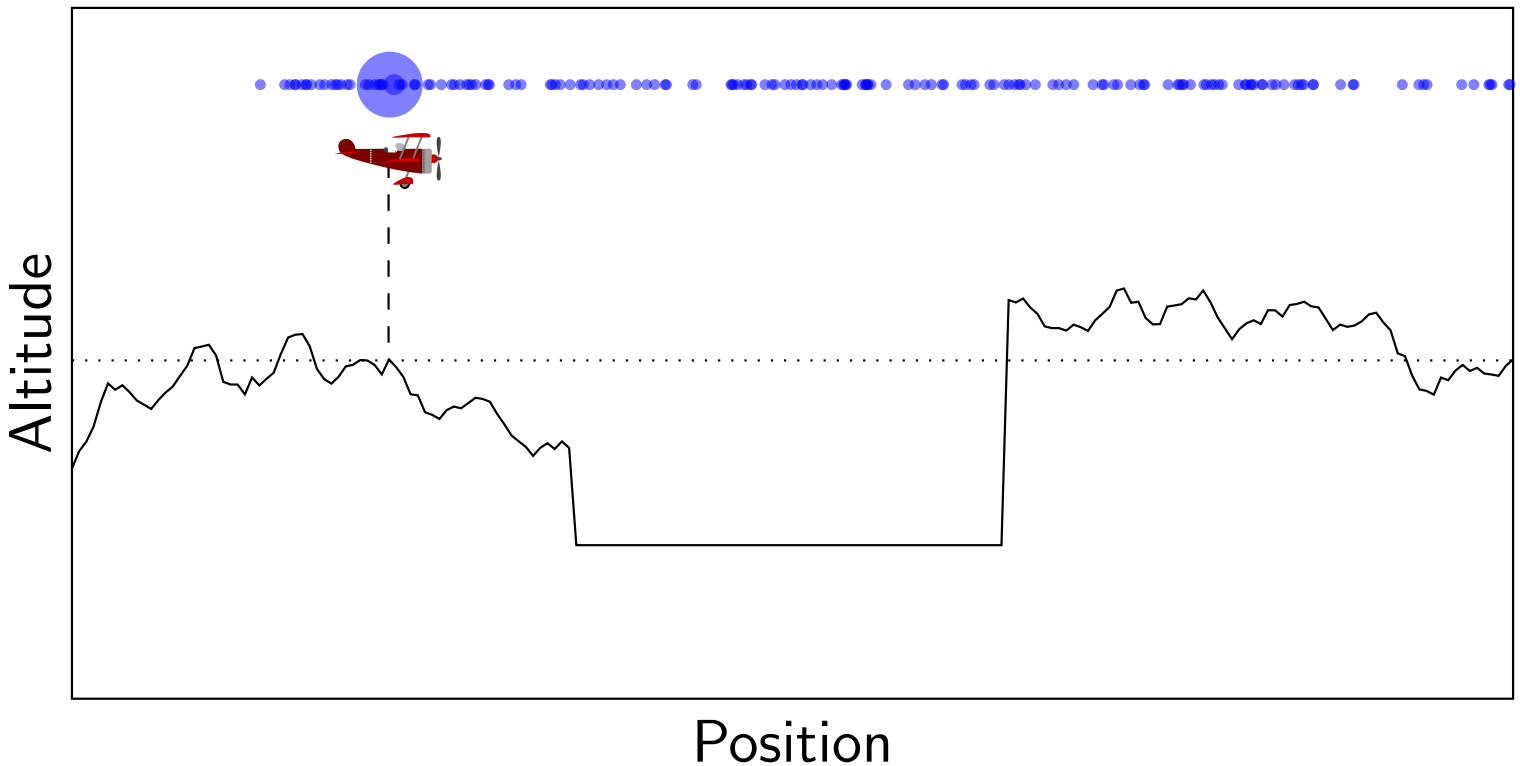

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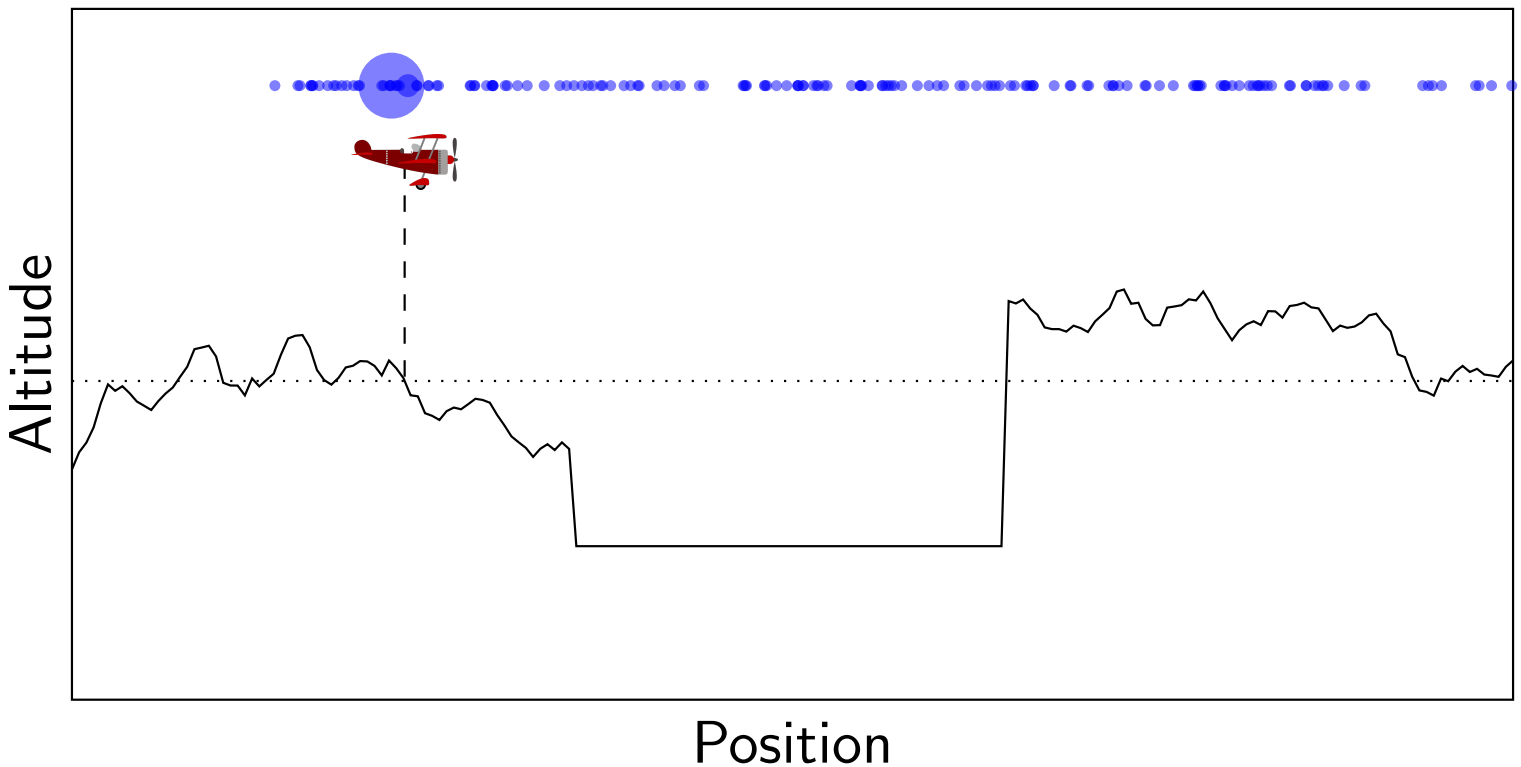

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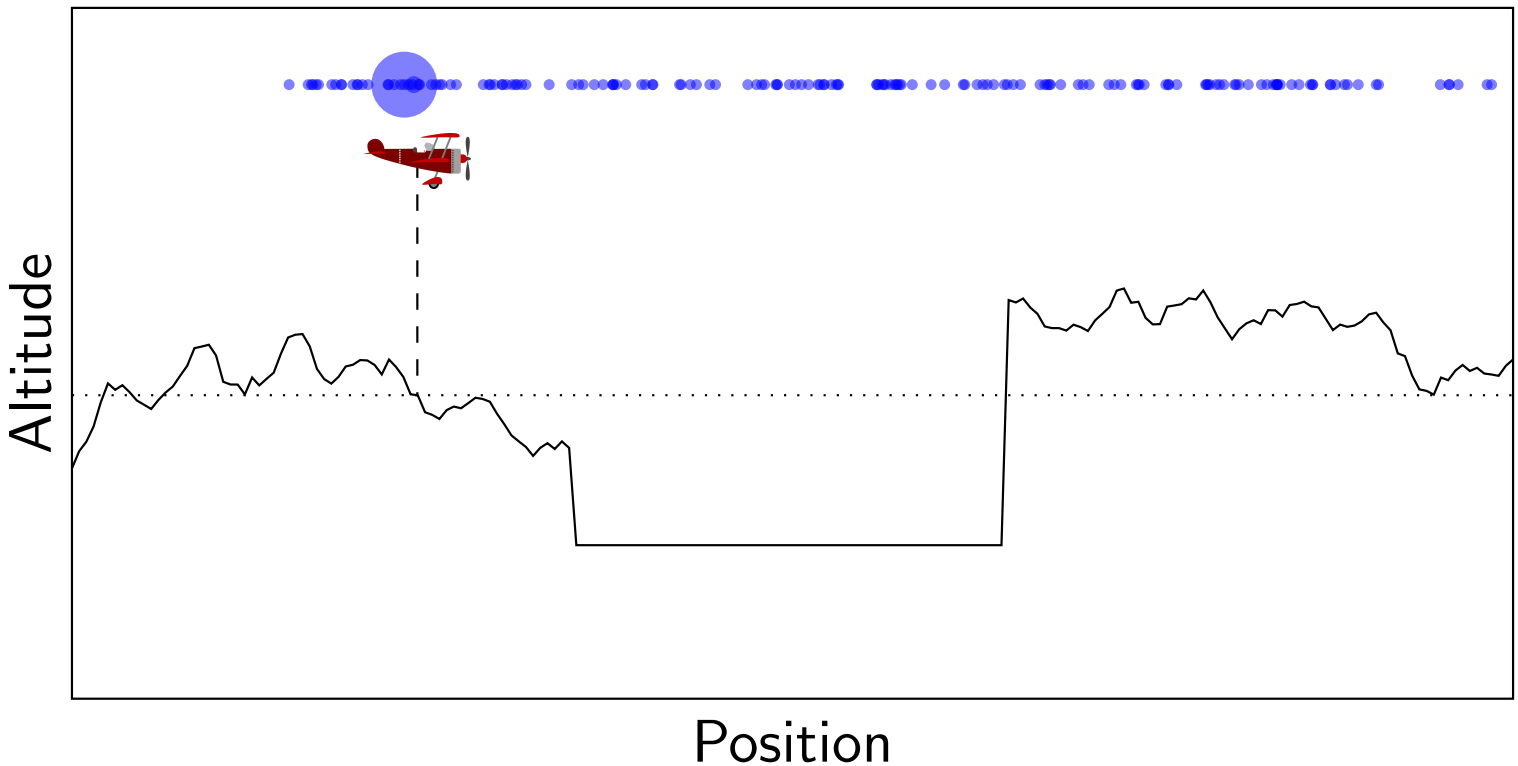

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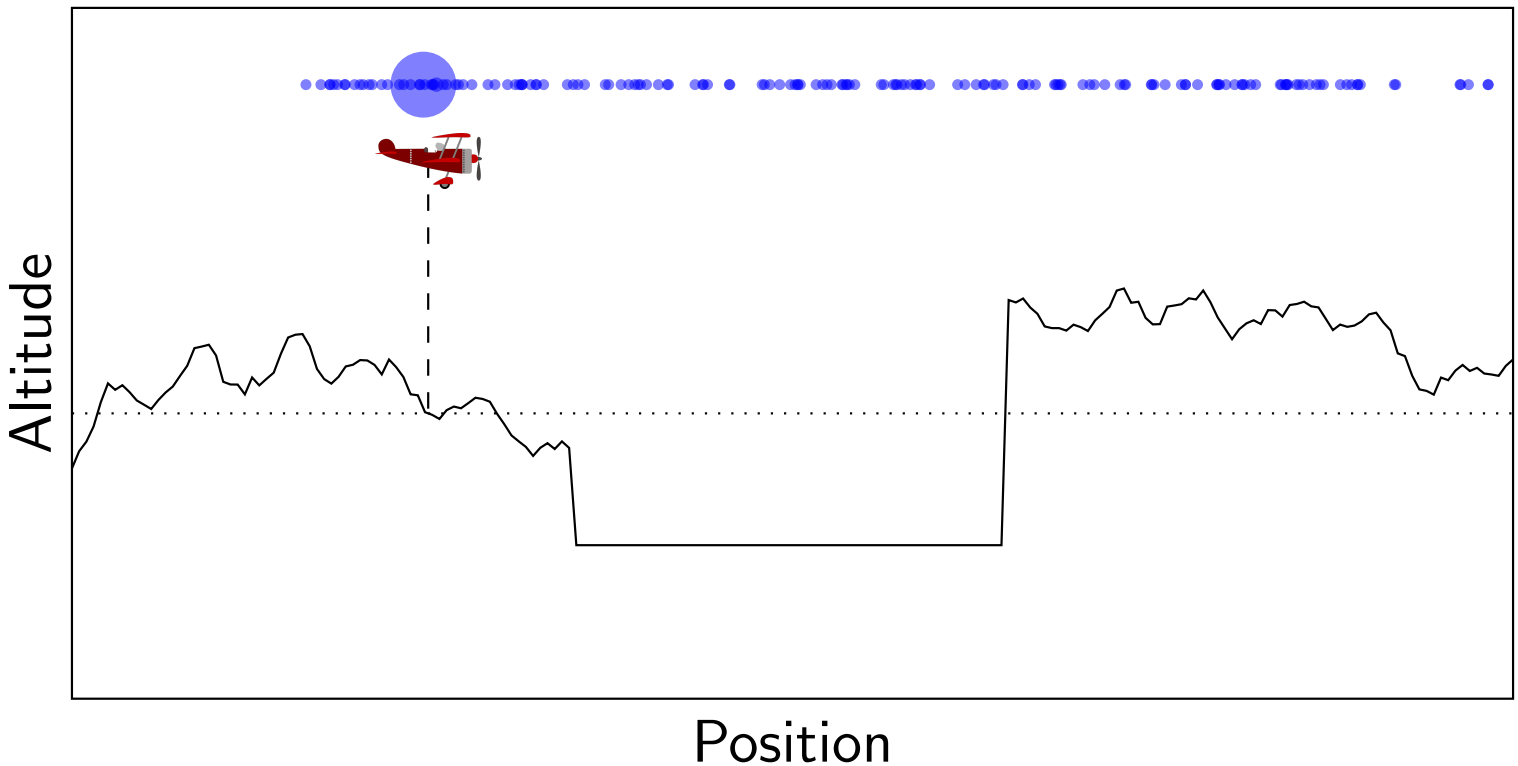

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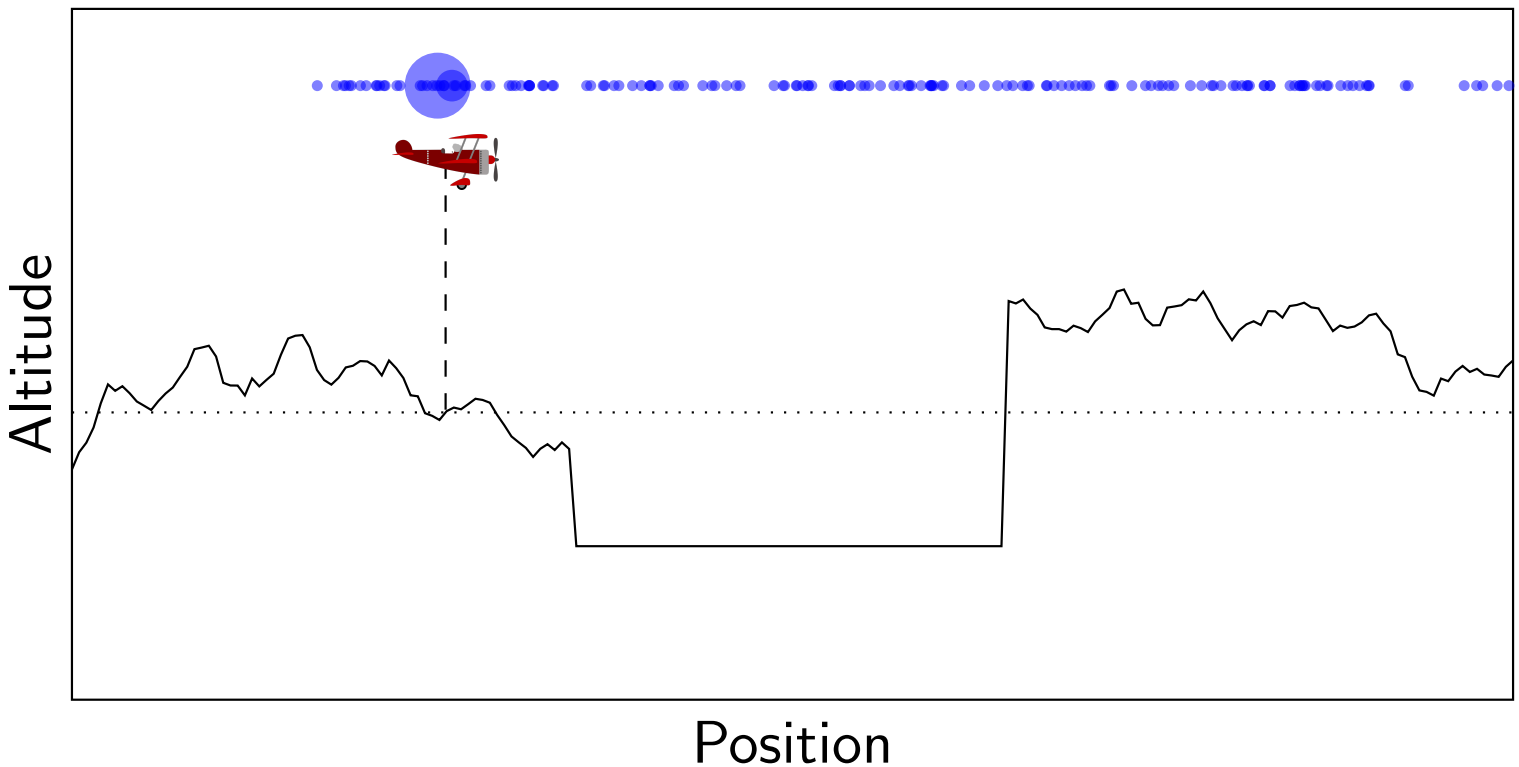

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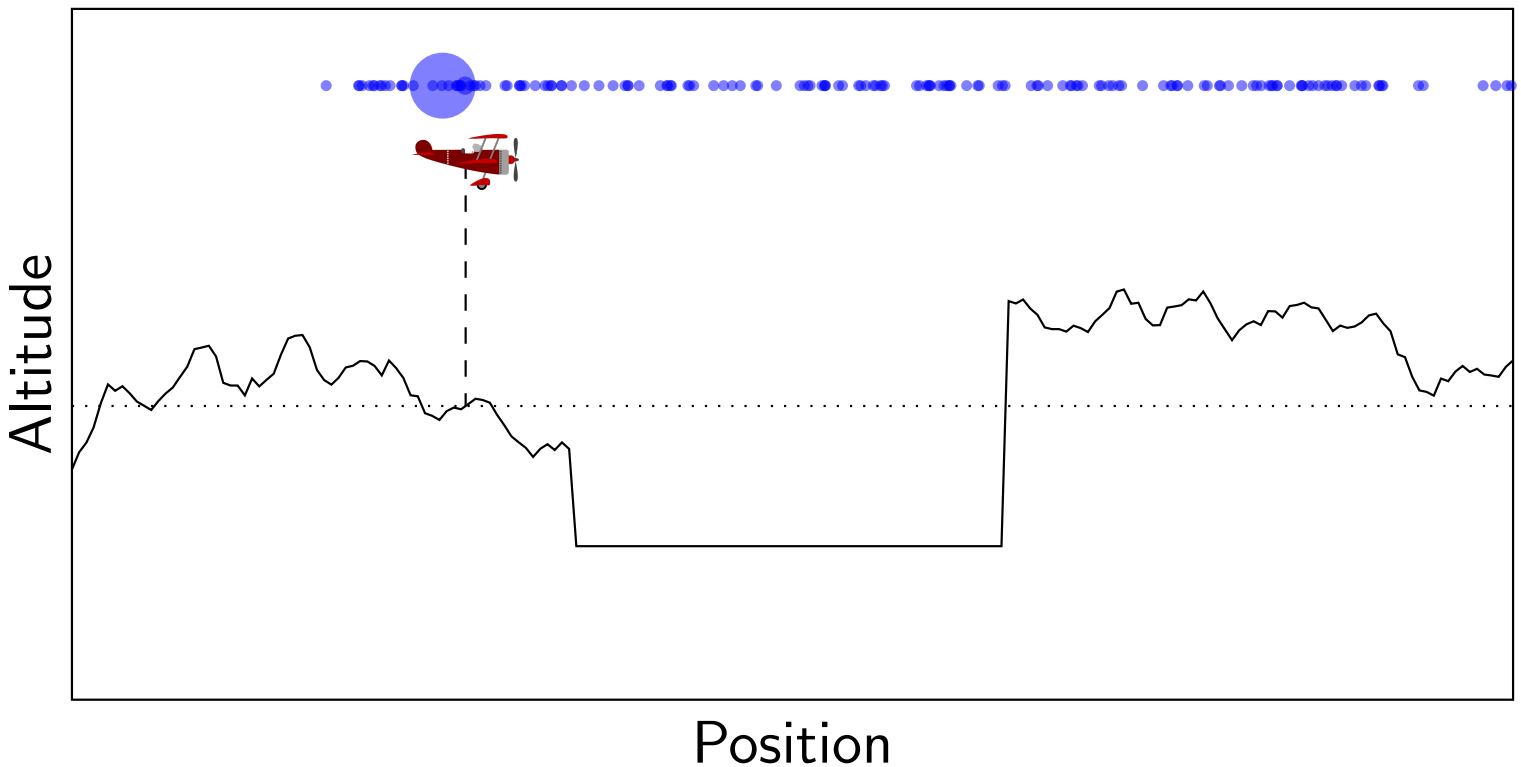

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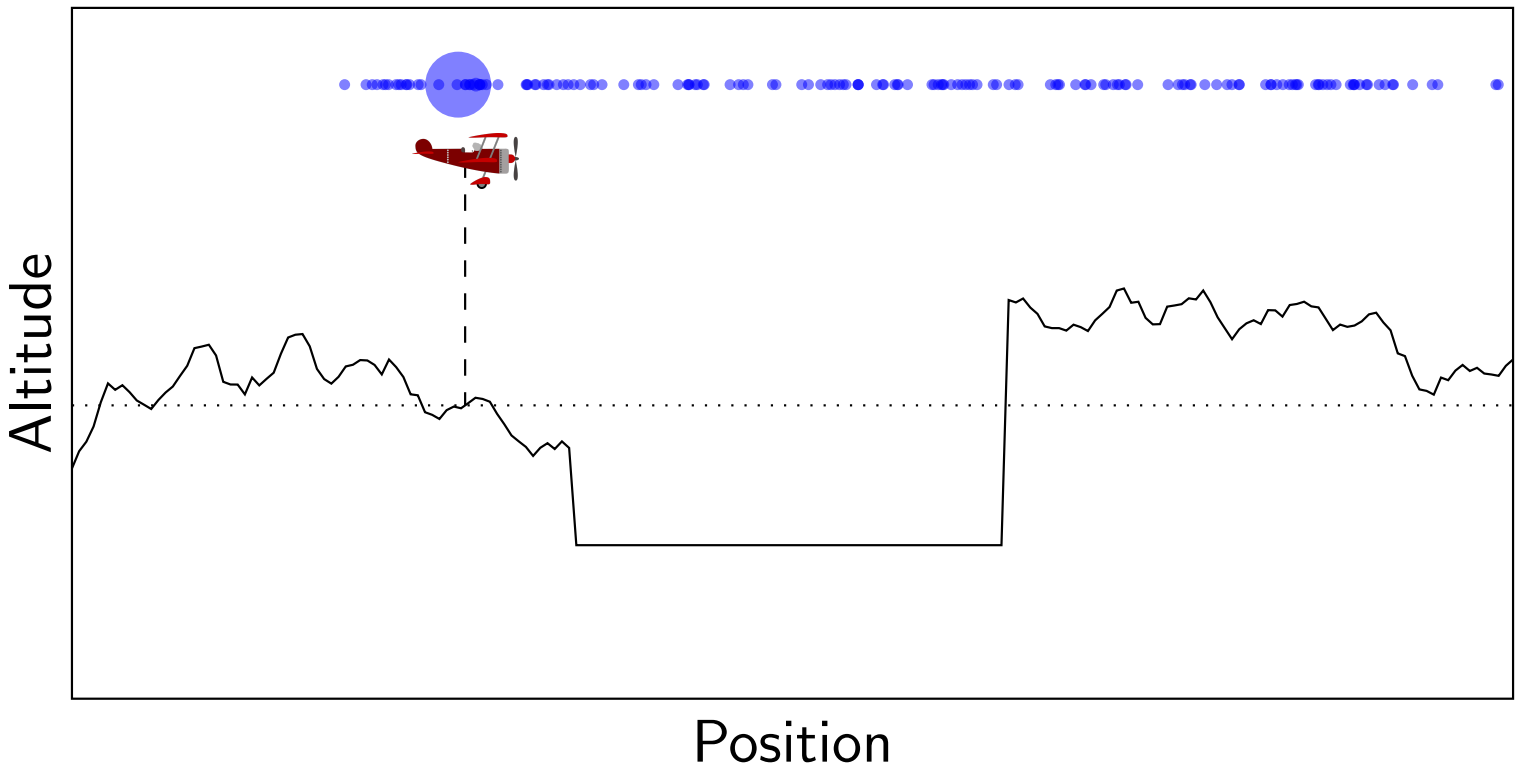

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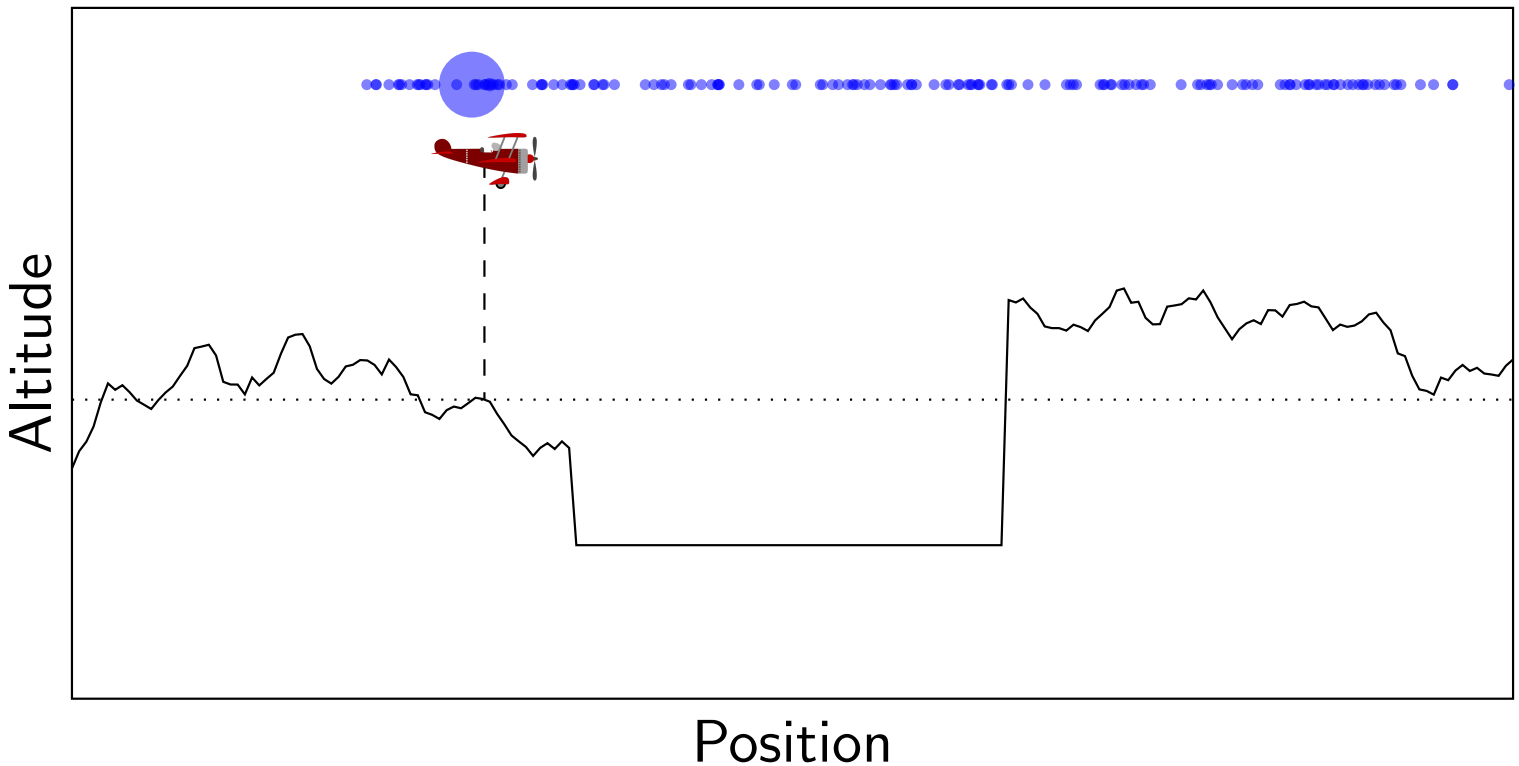

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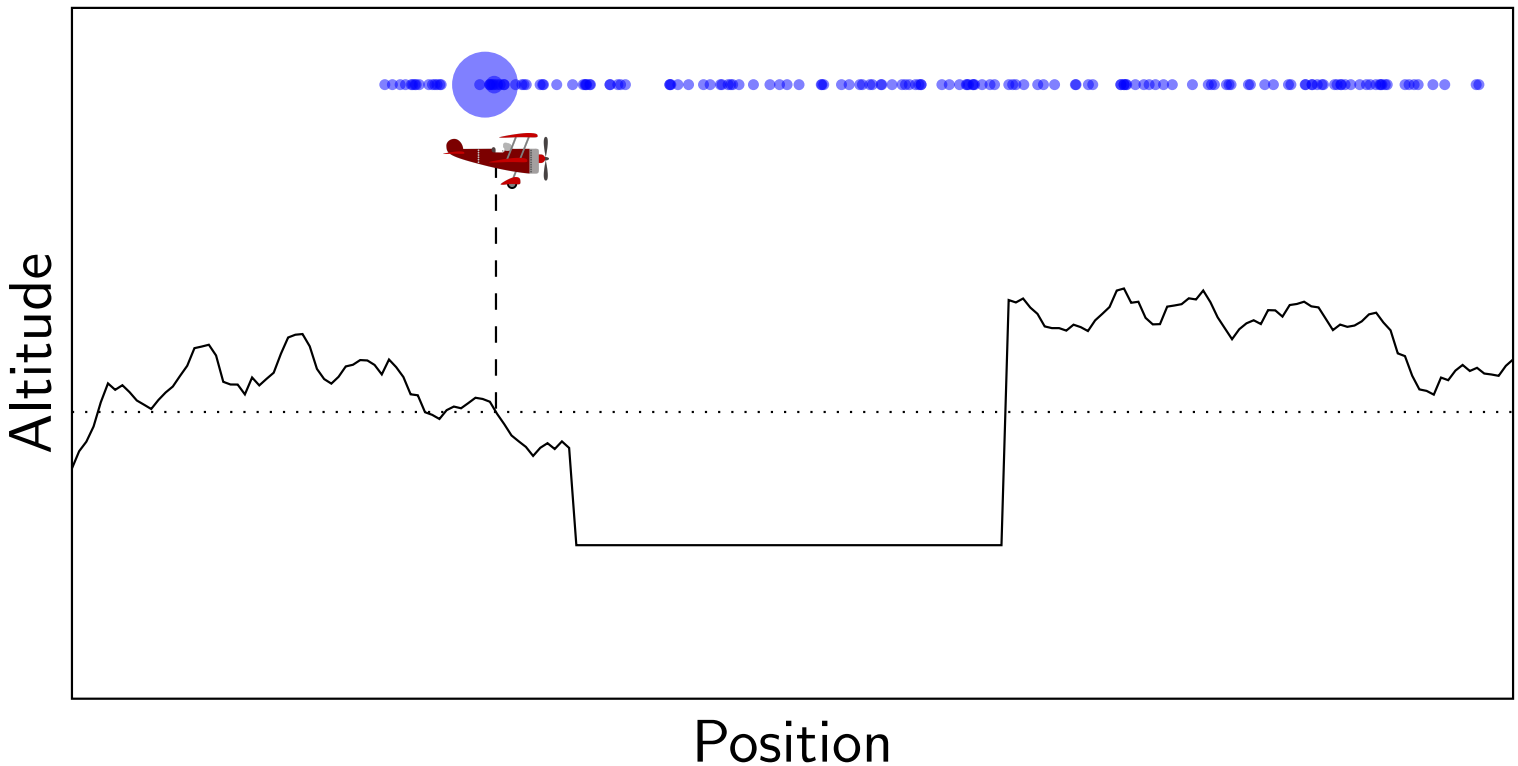

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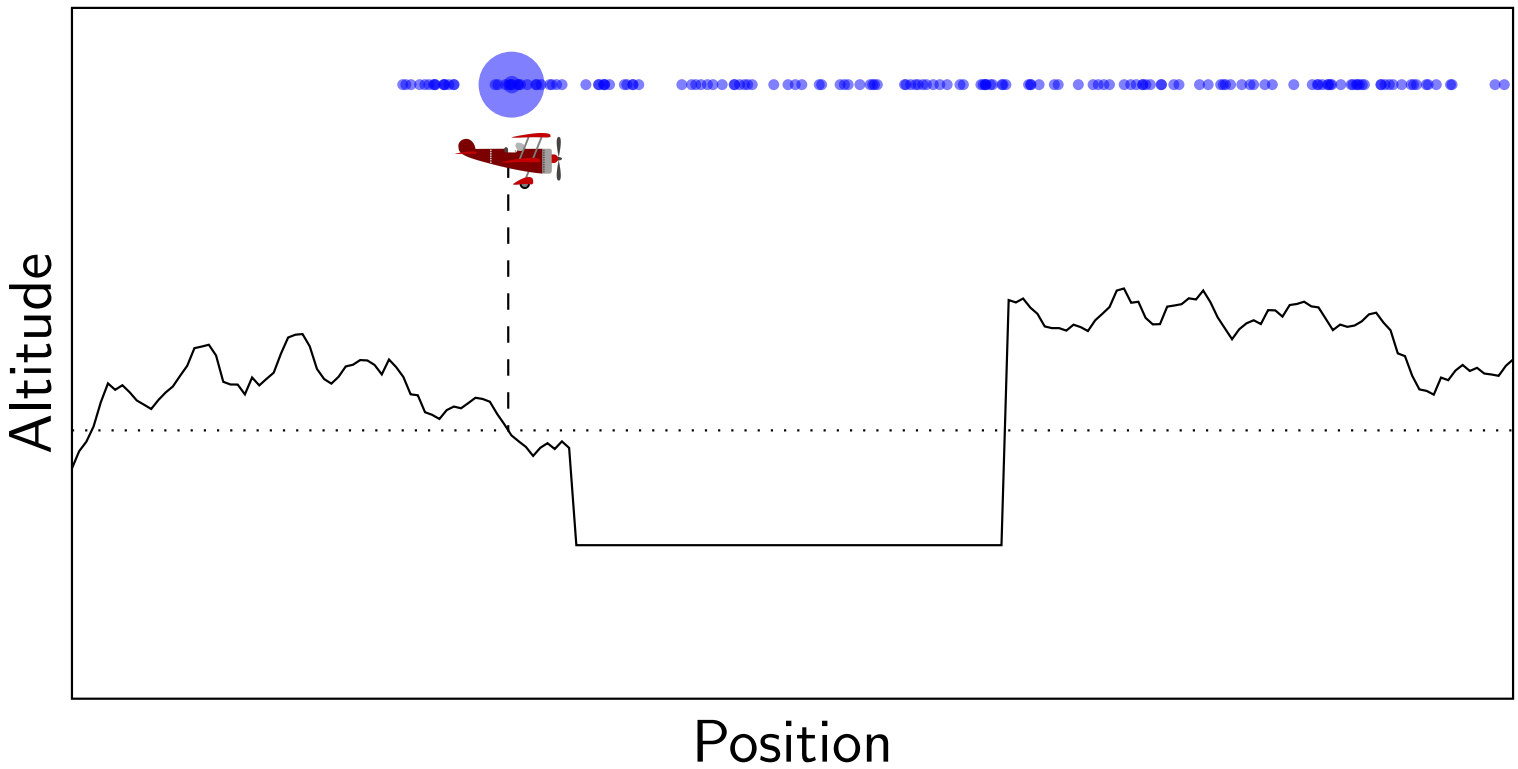

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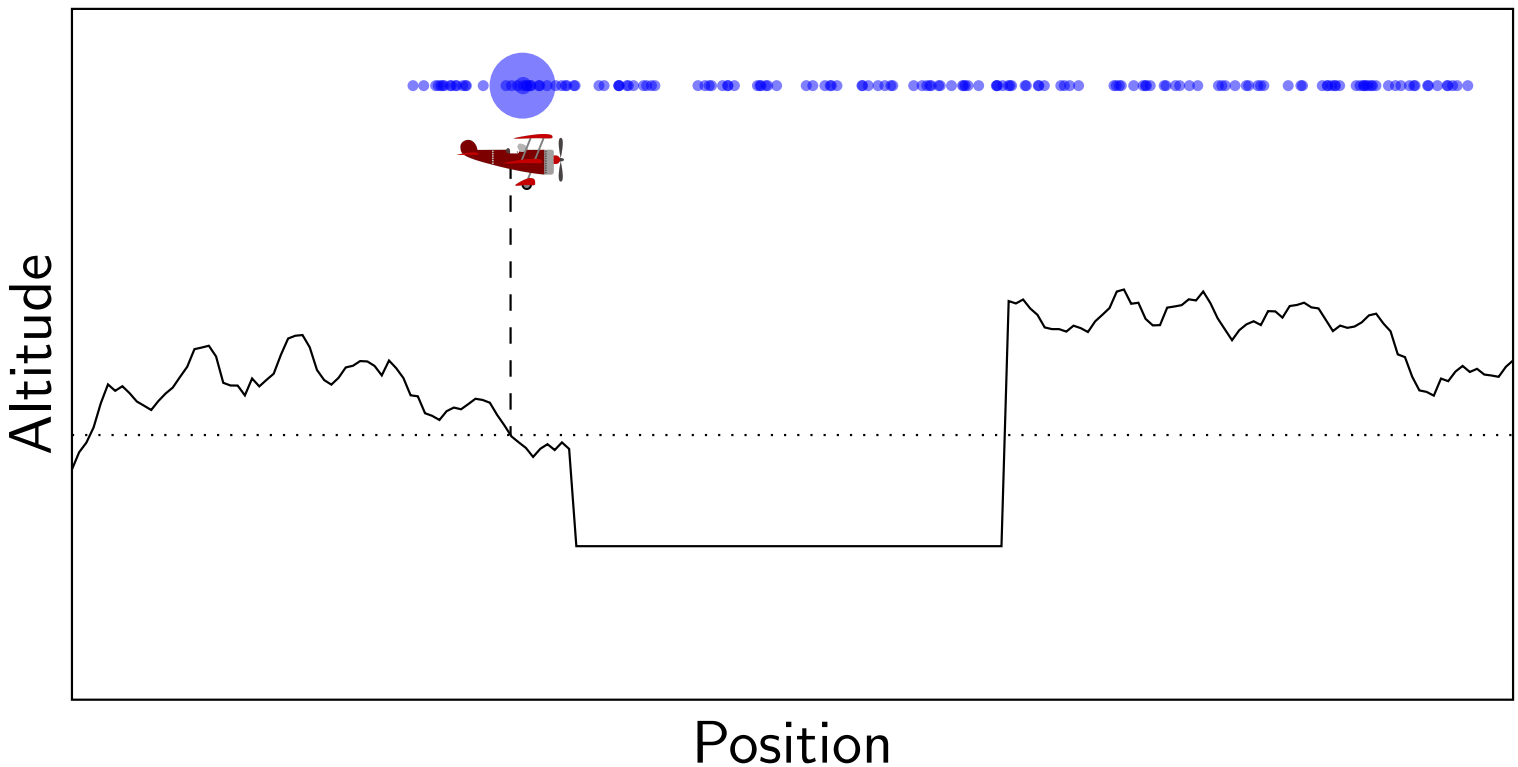

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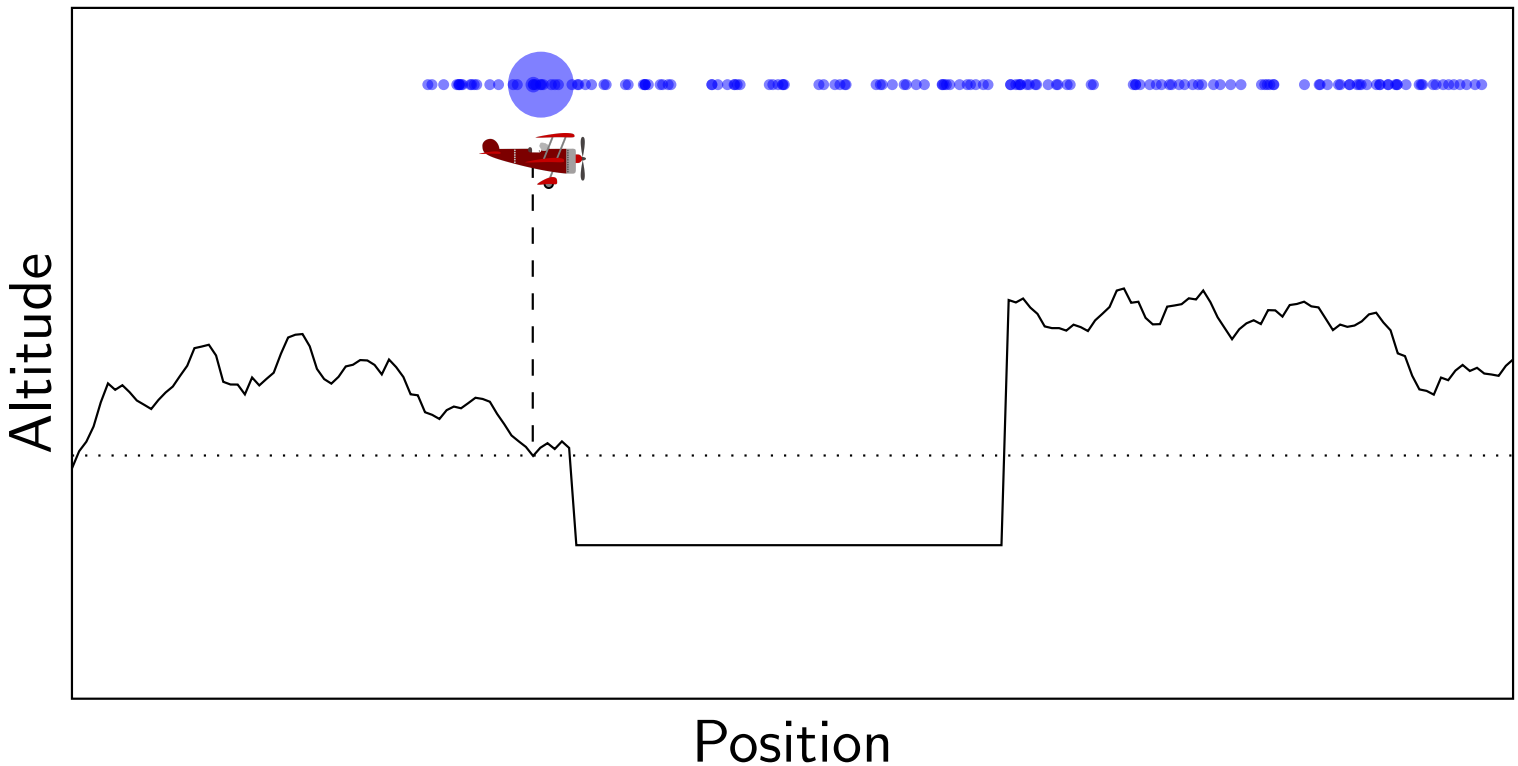

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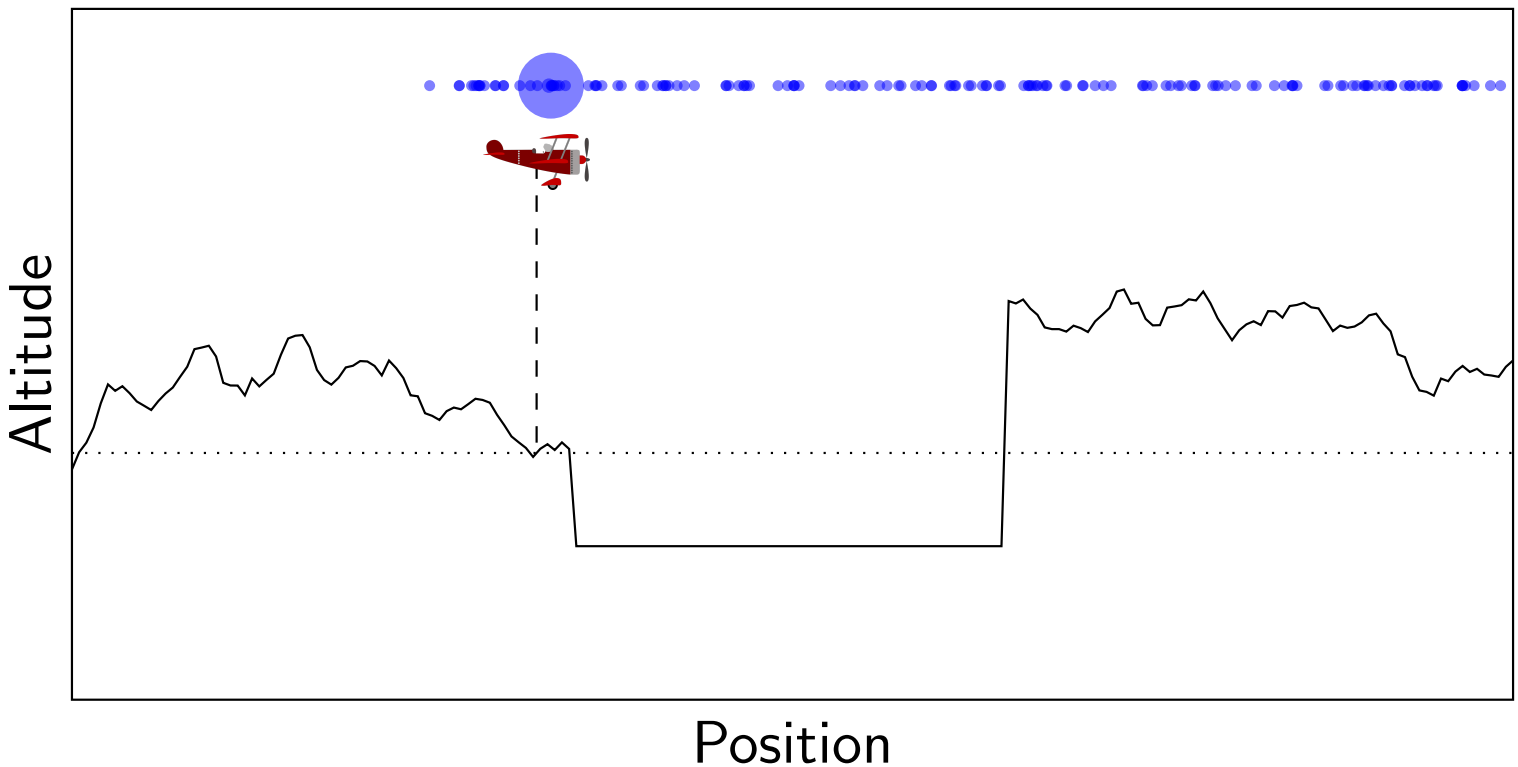

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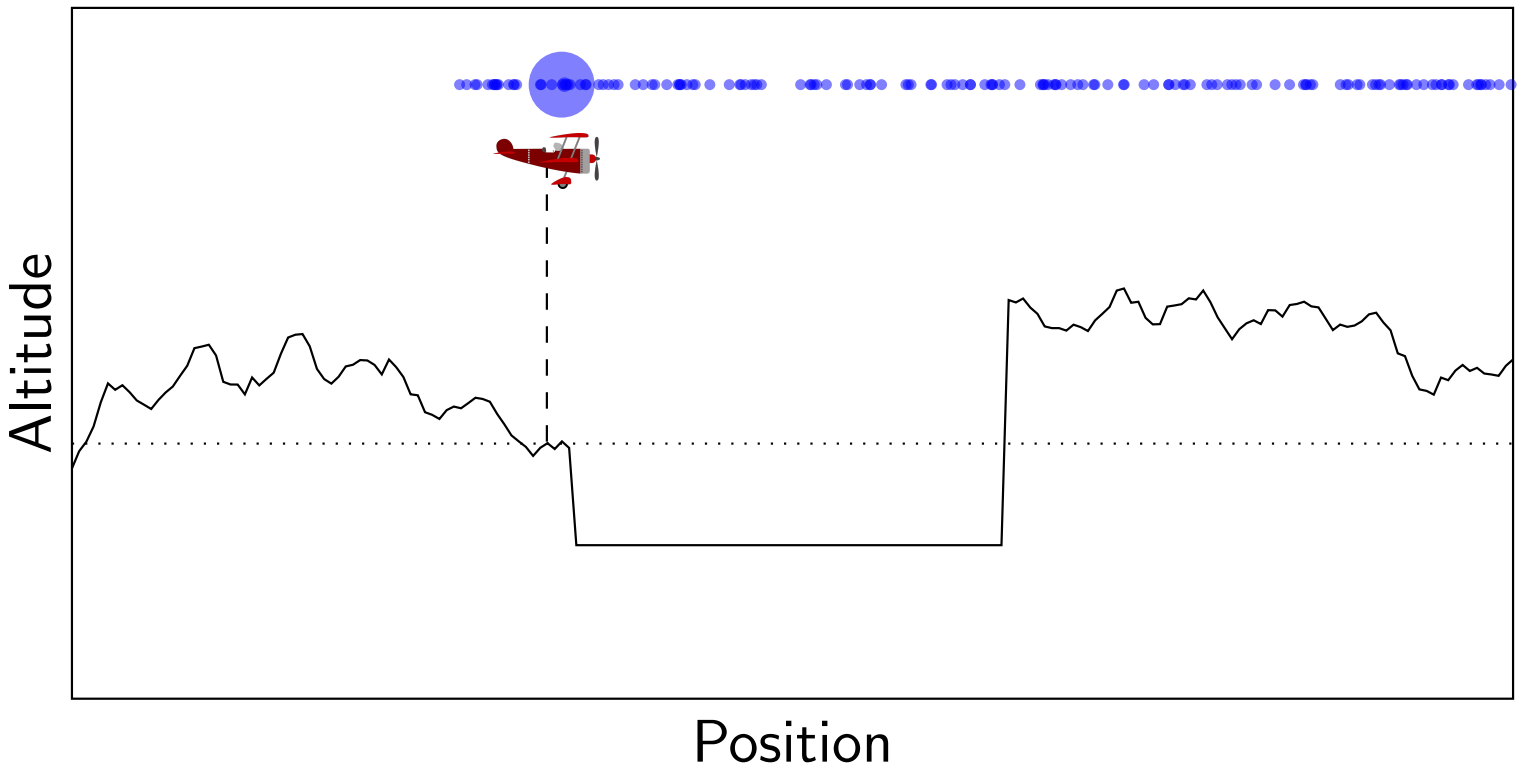

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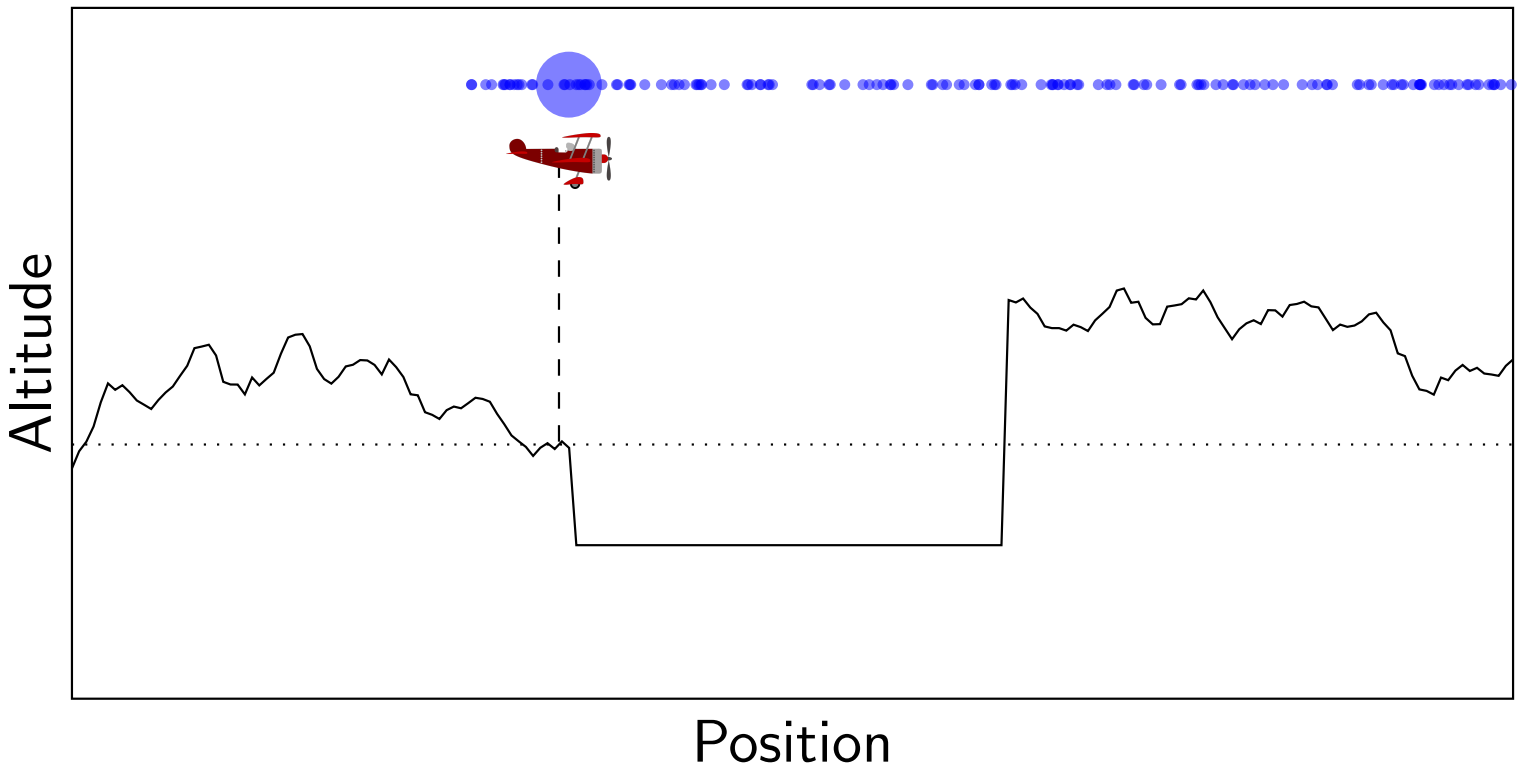

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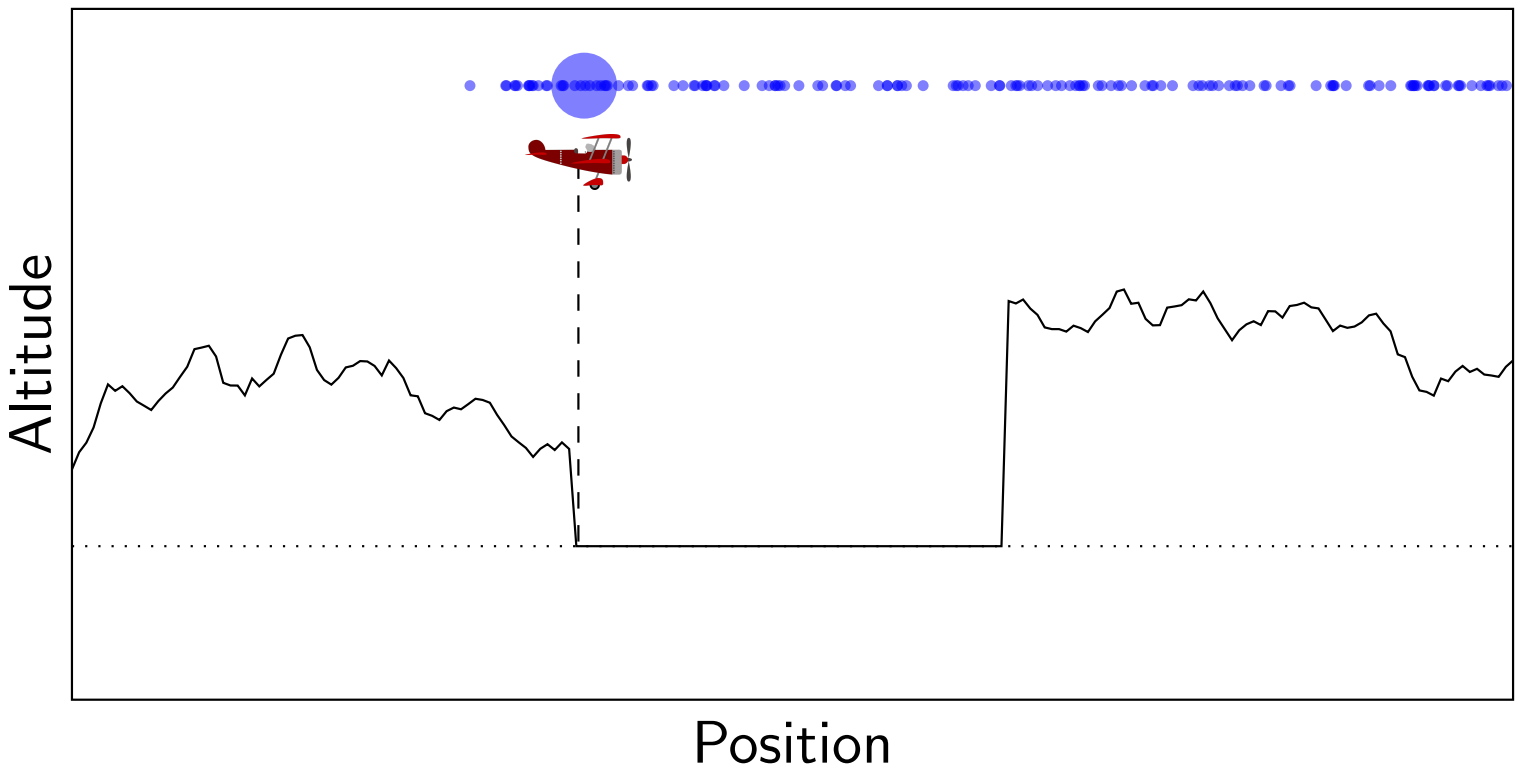

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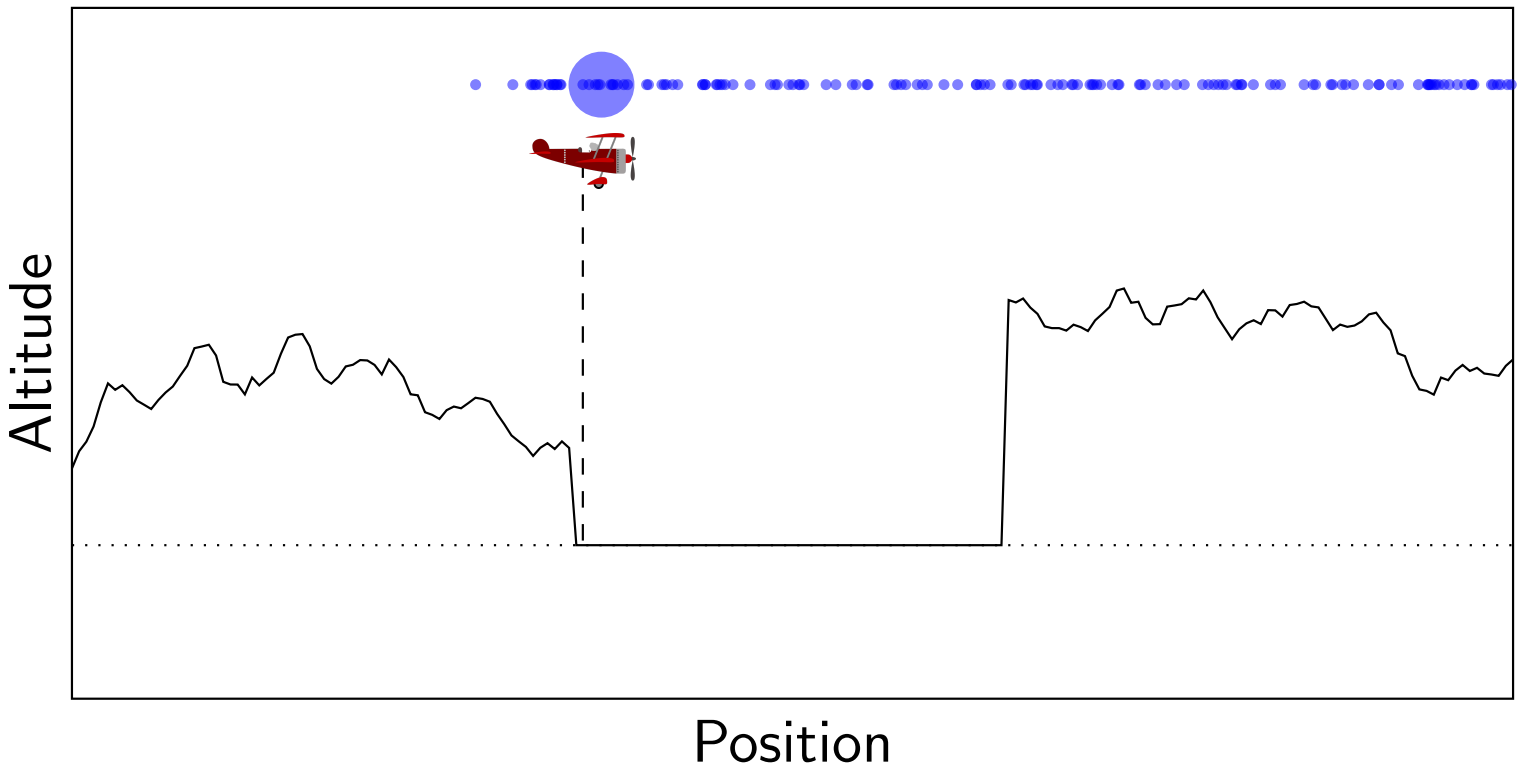

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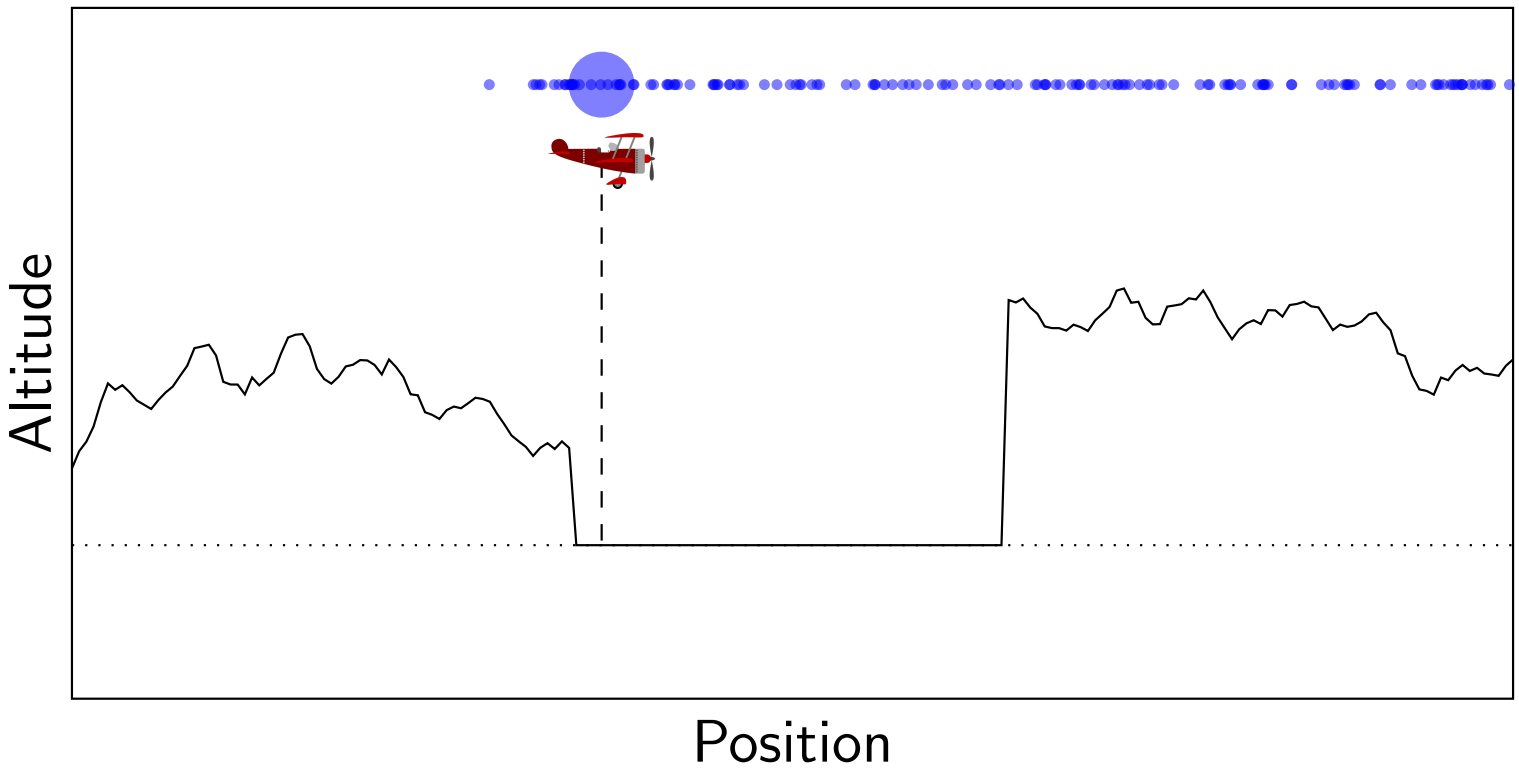

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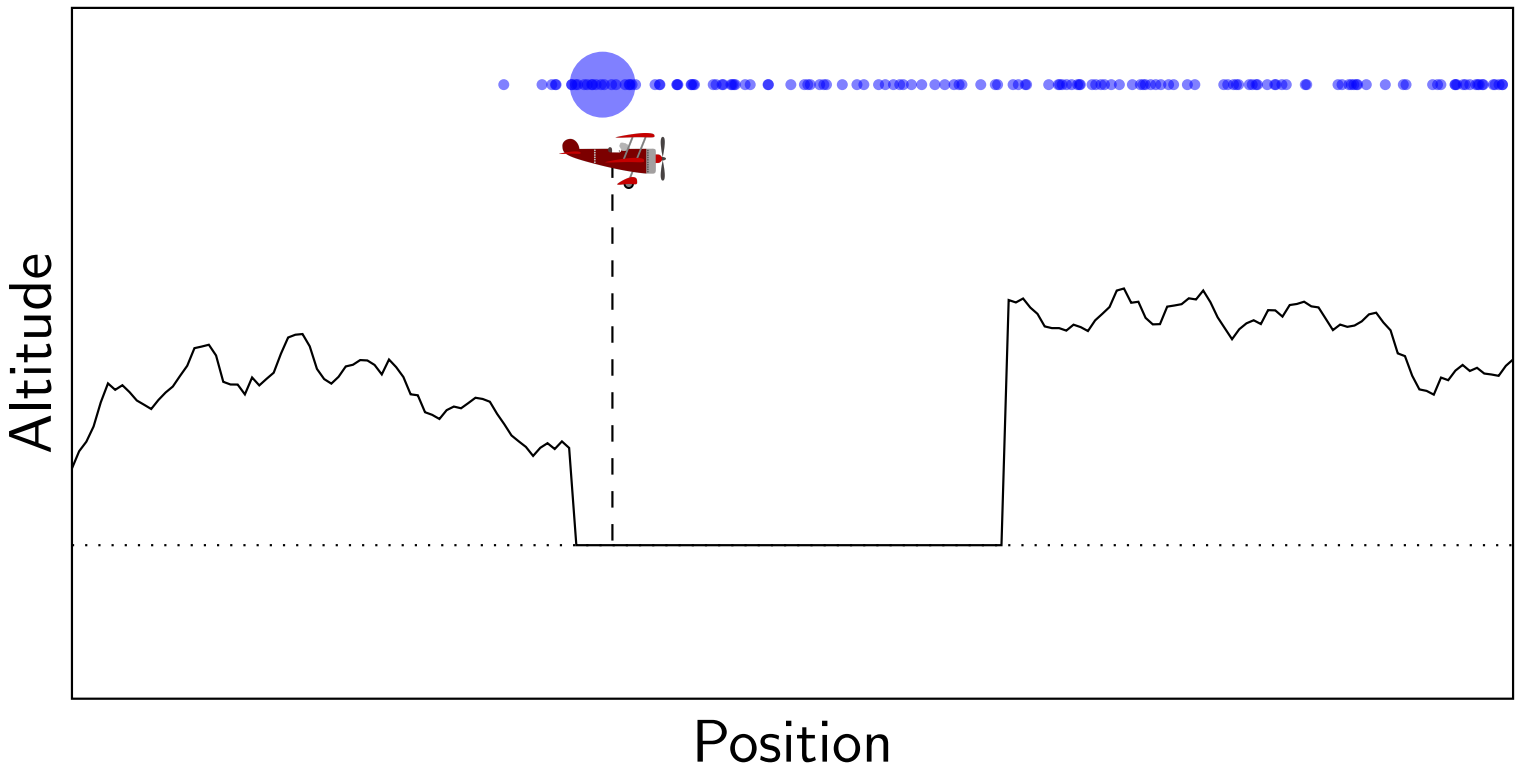

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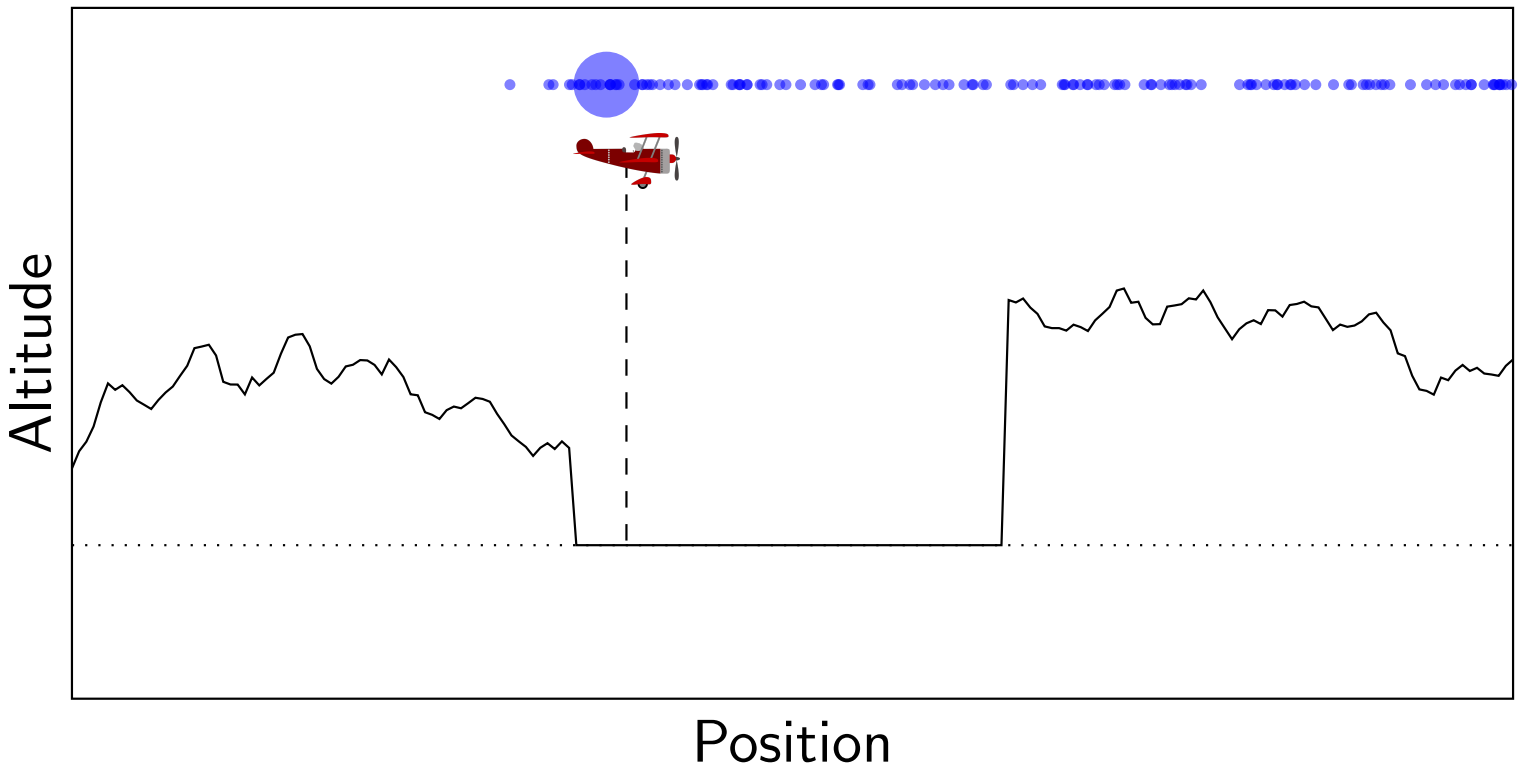

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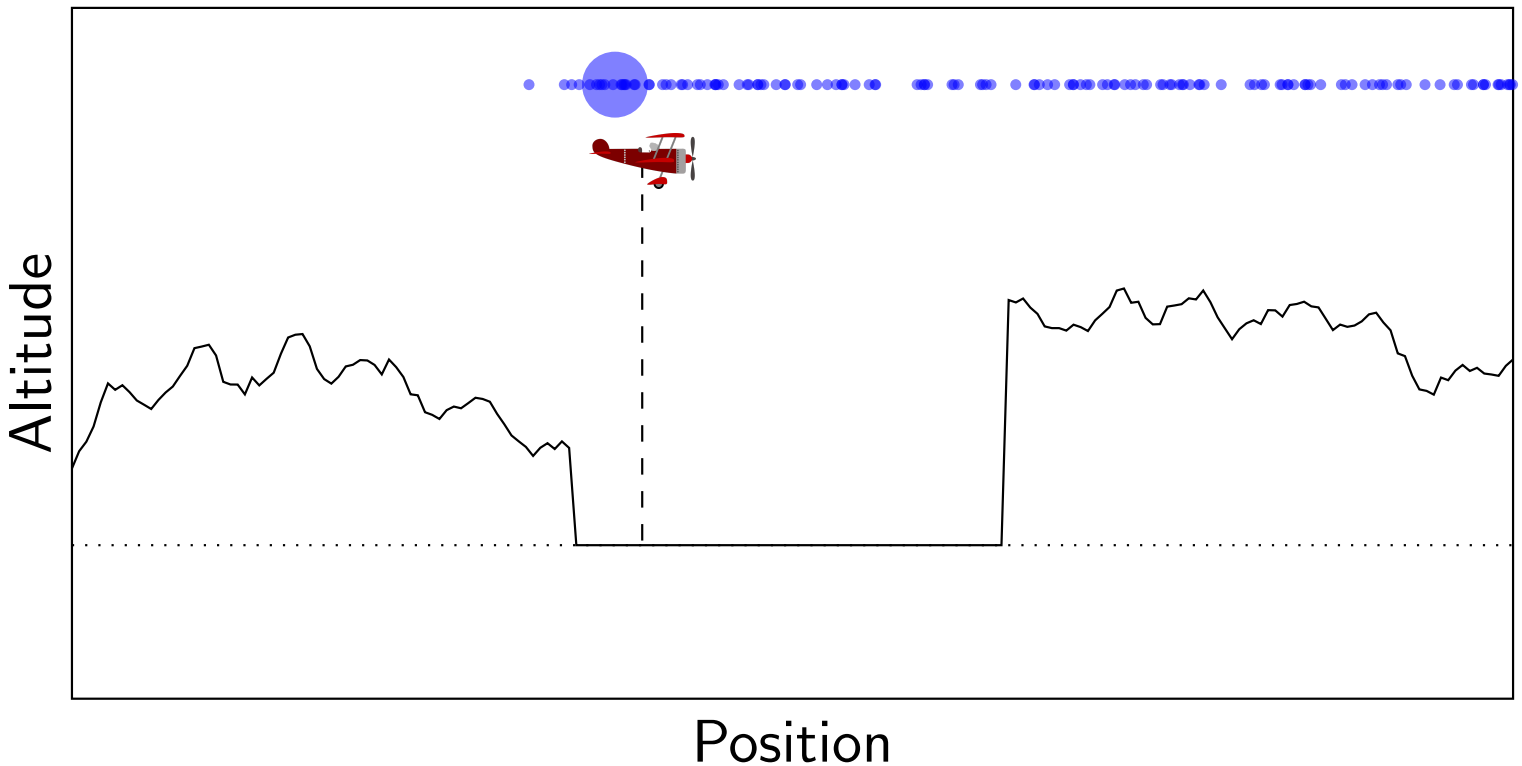

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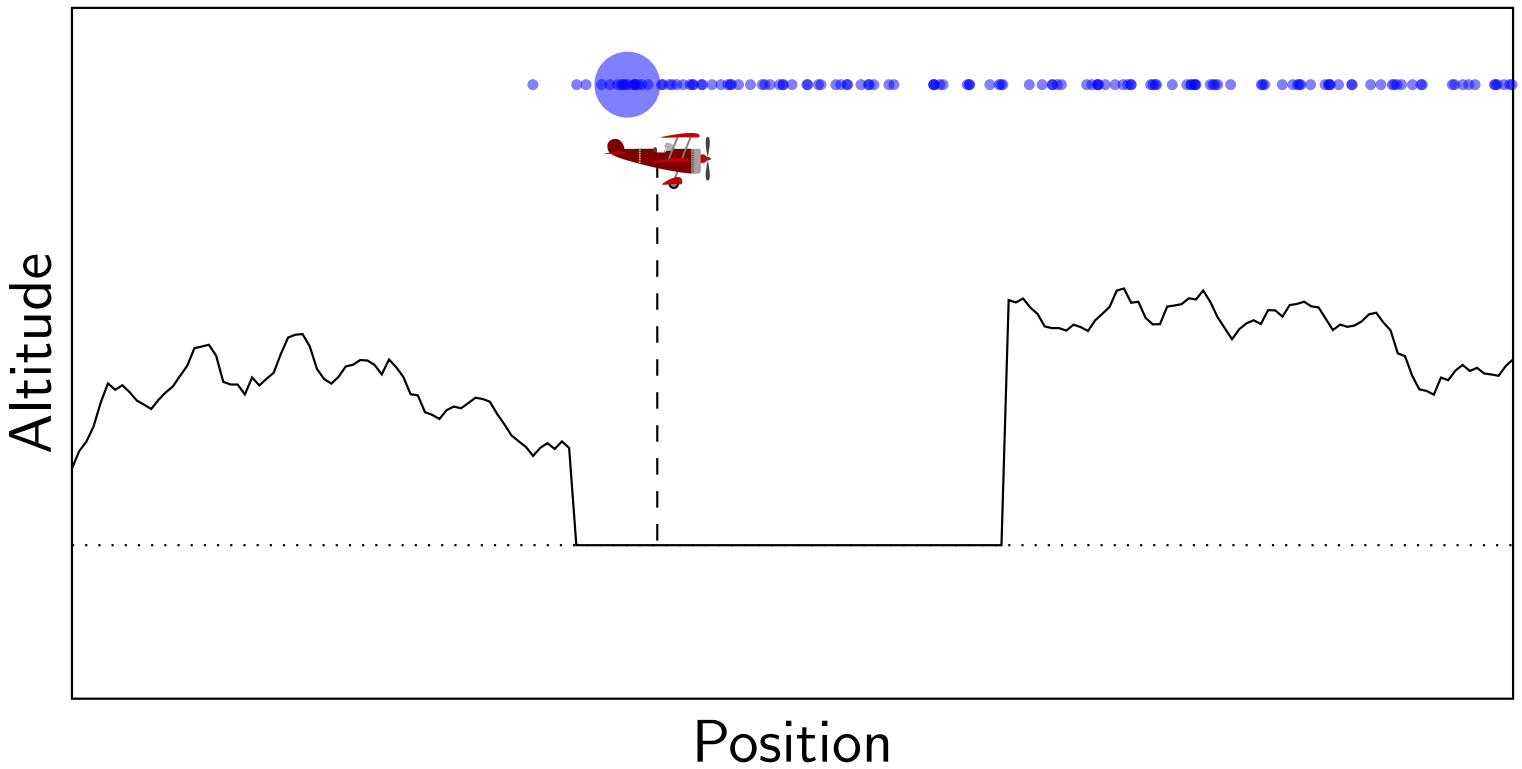

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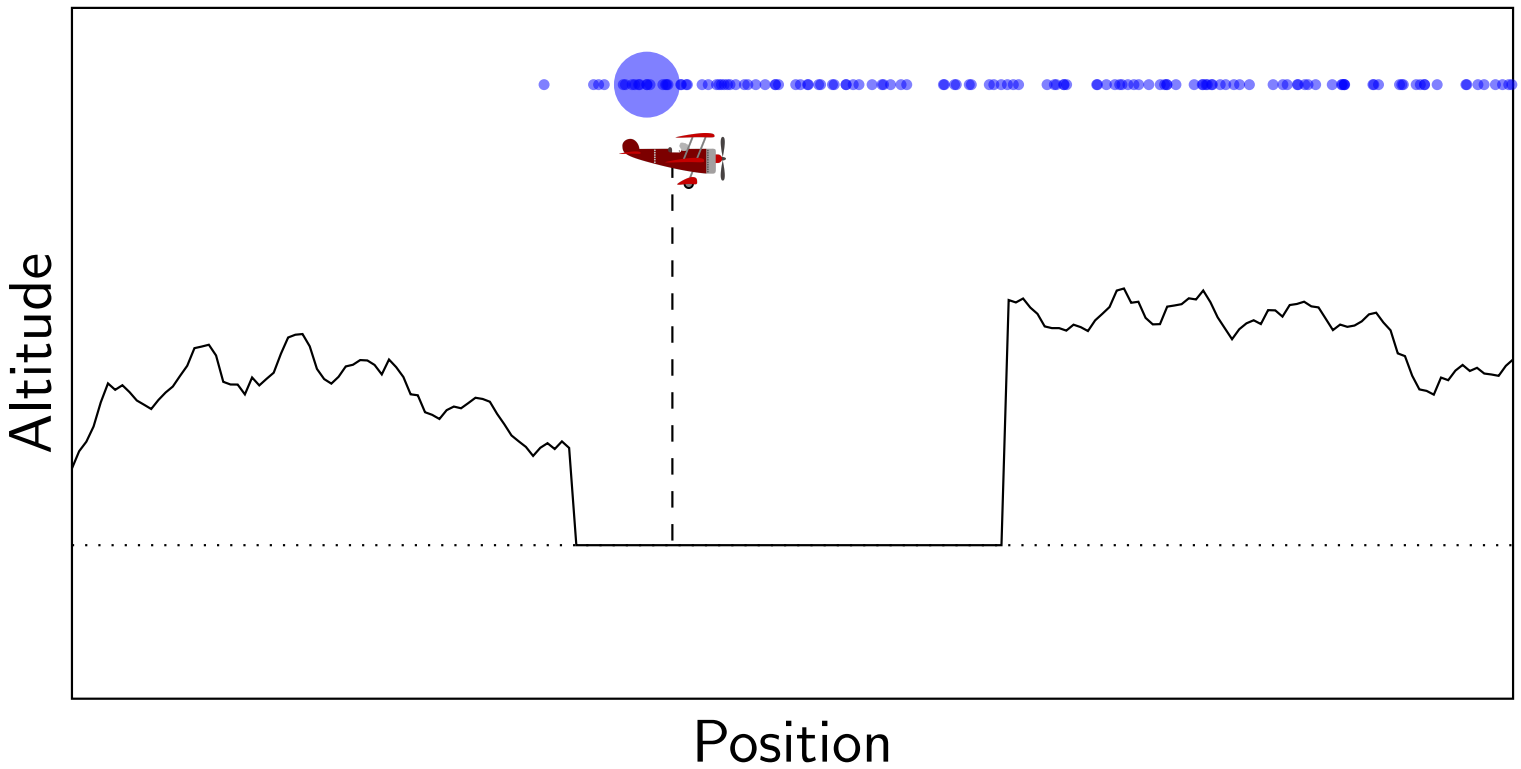

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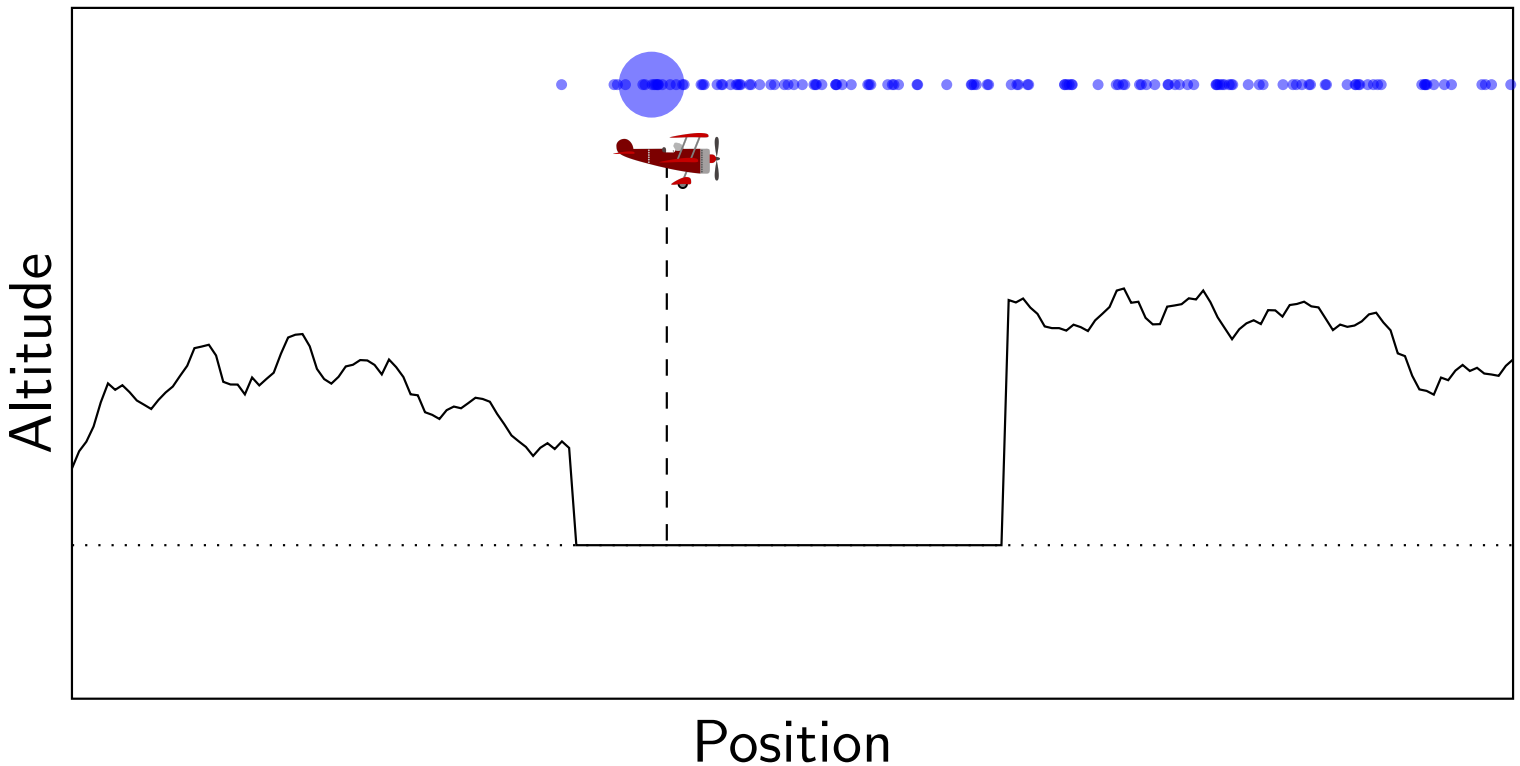

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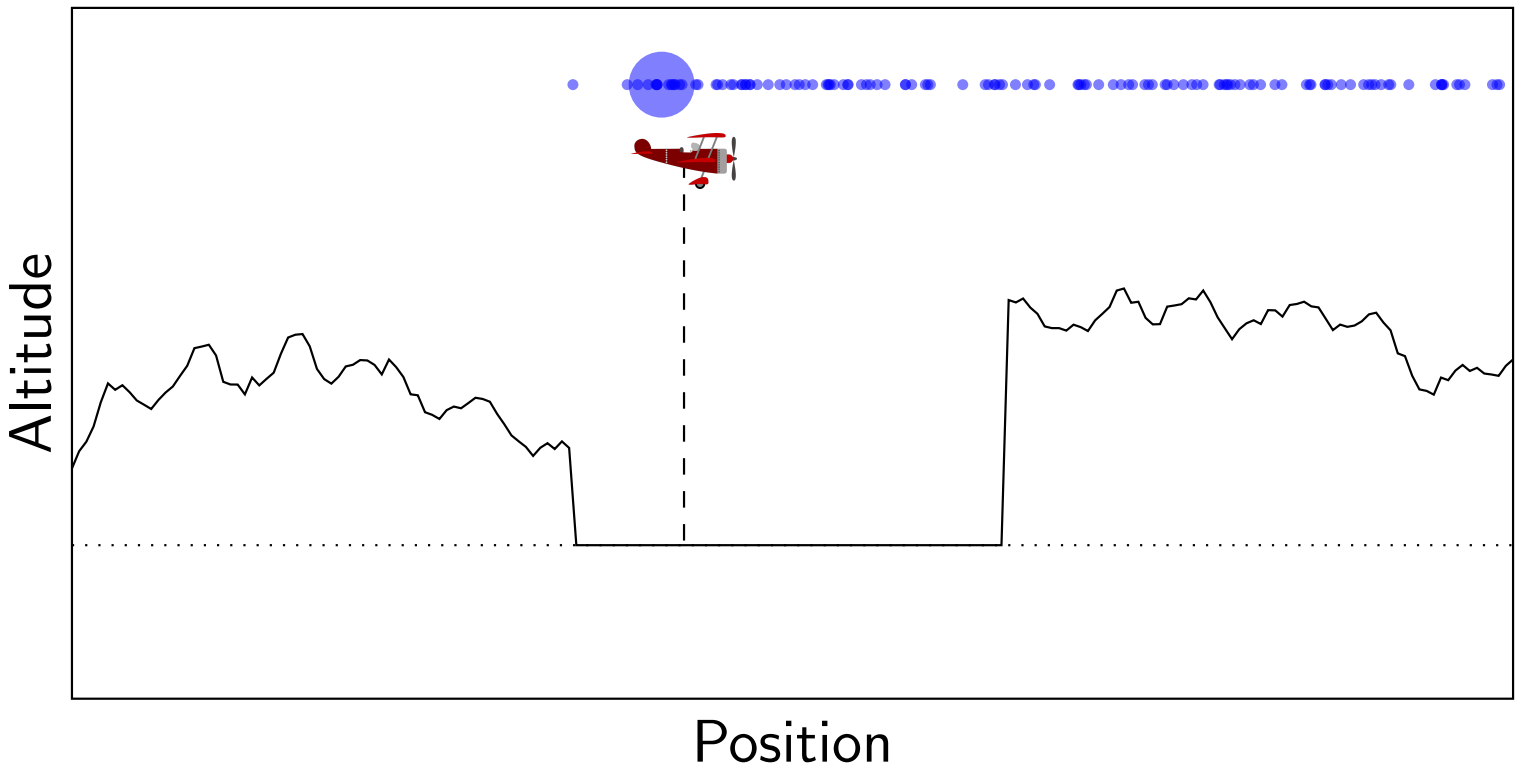

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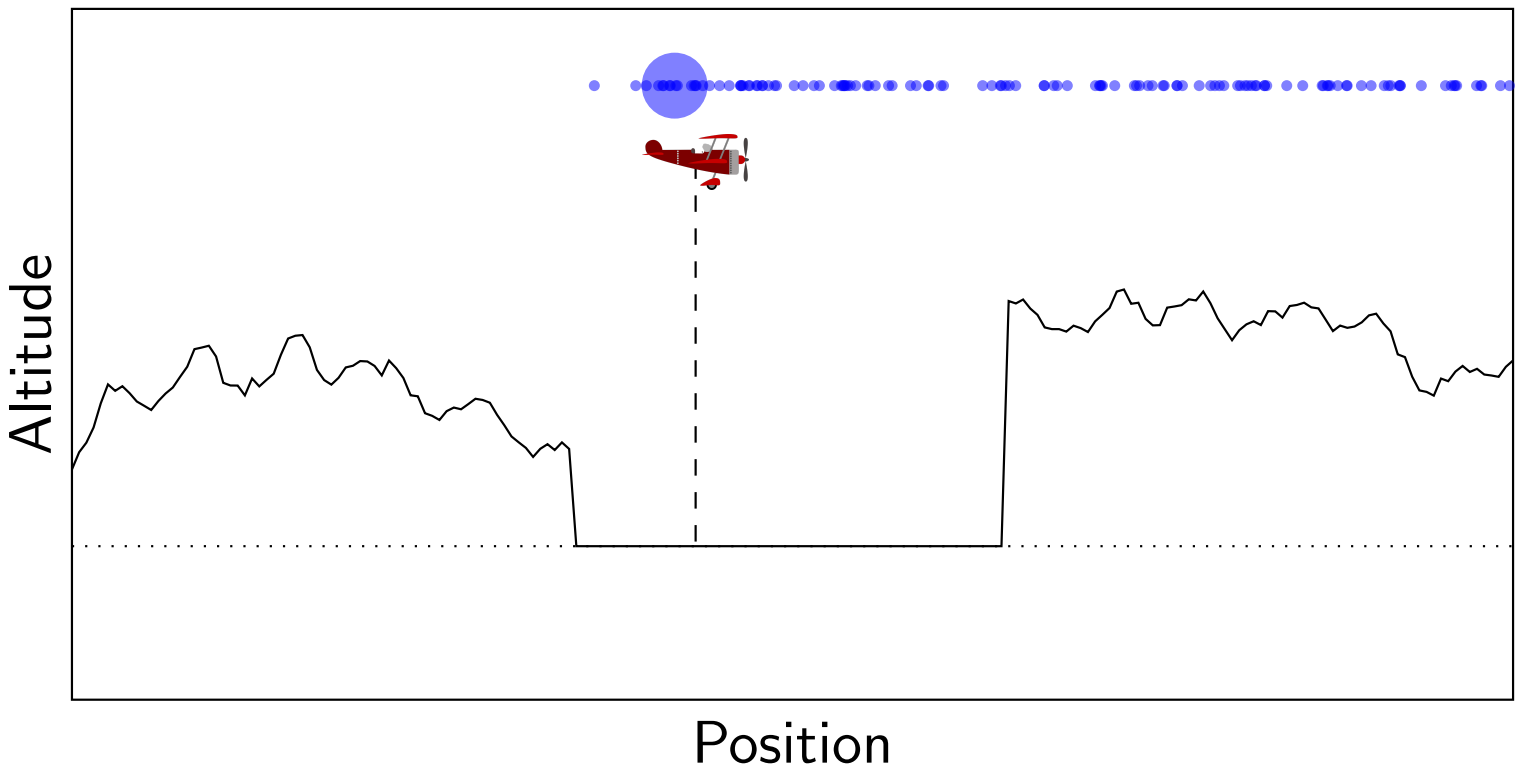
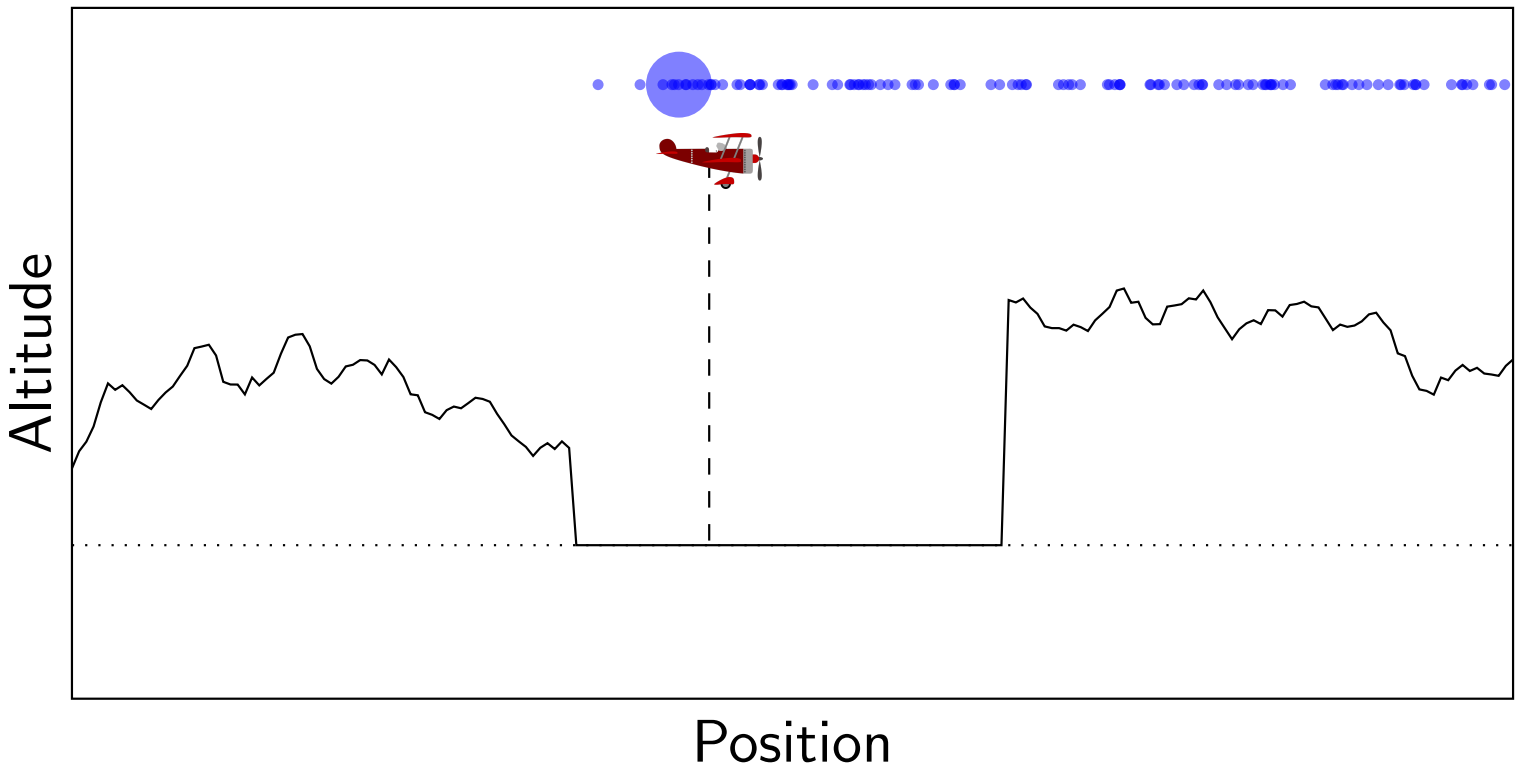
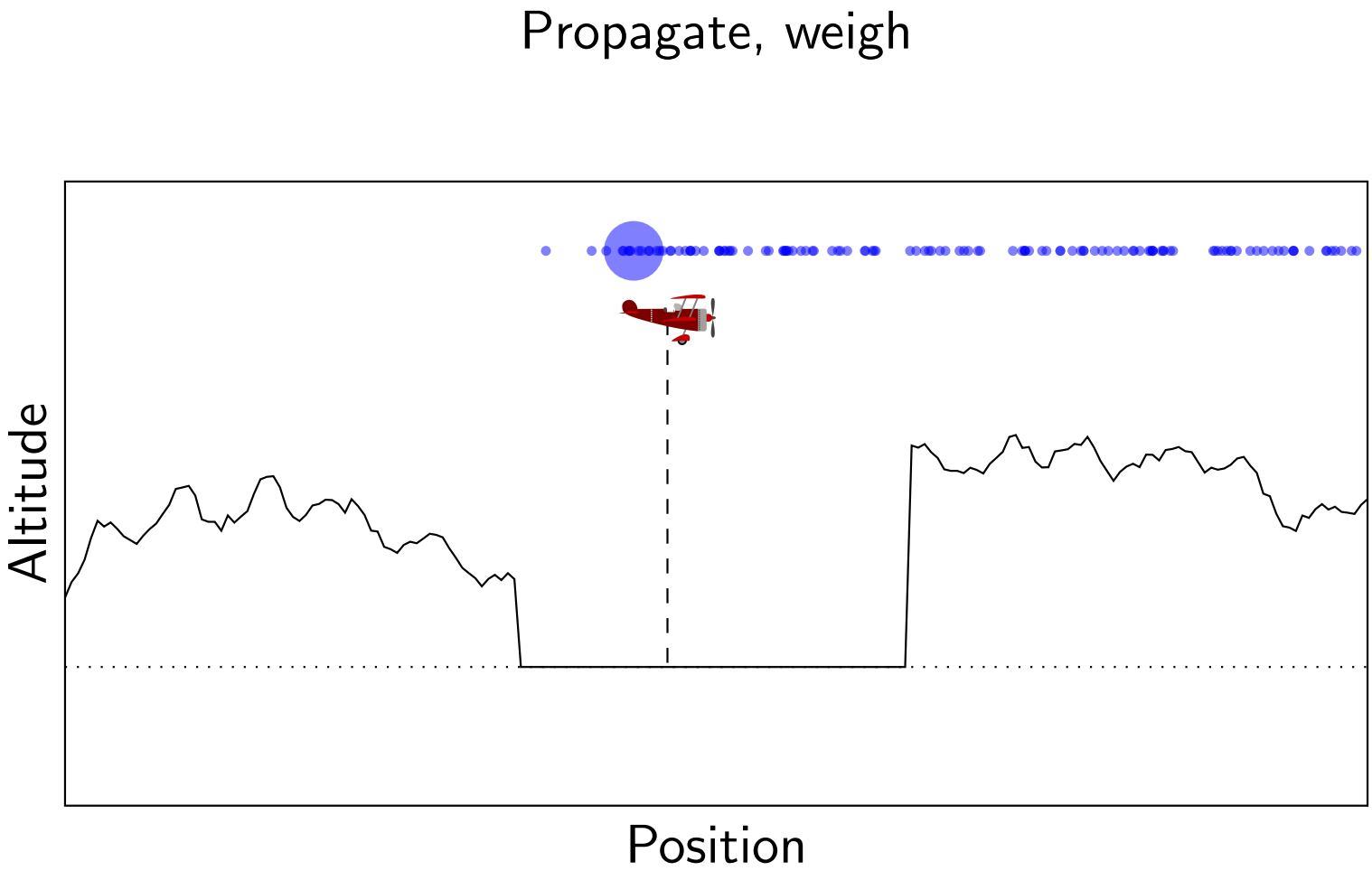


Importance sampling

Propagate, weigh

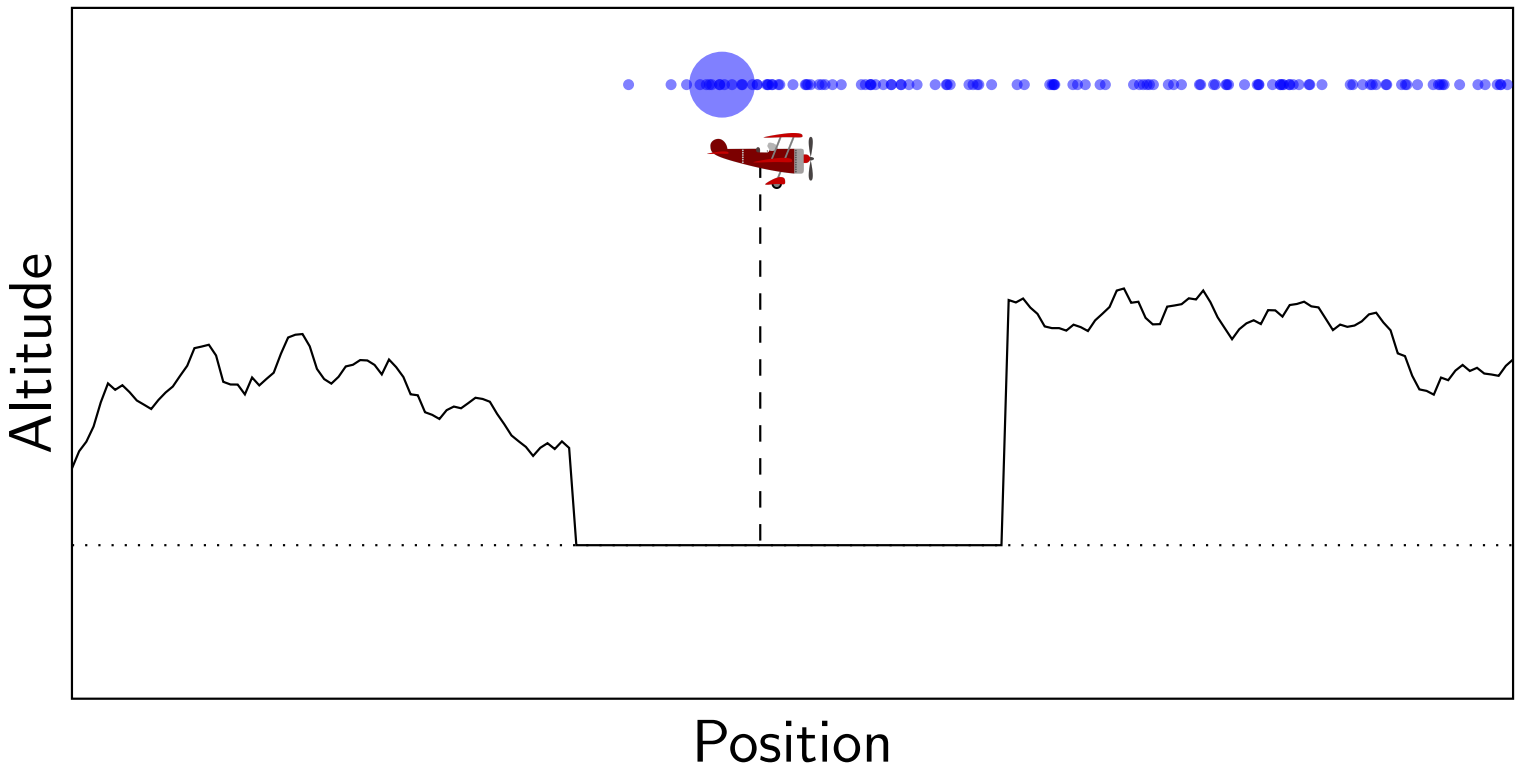


Importance sampling



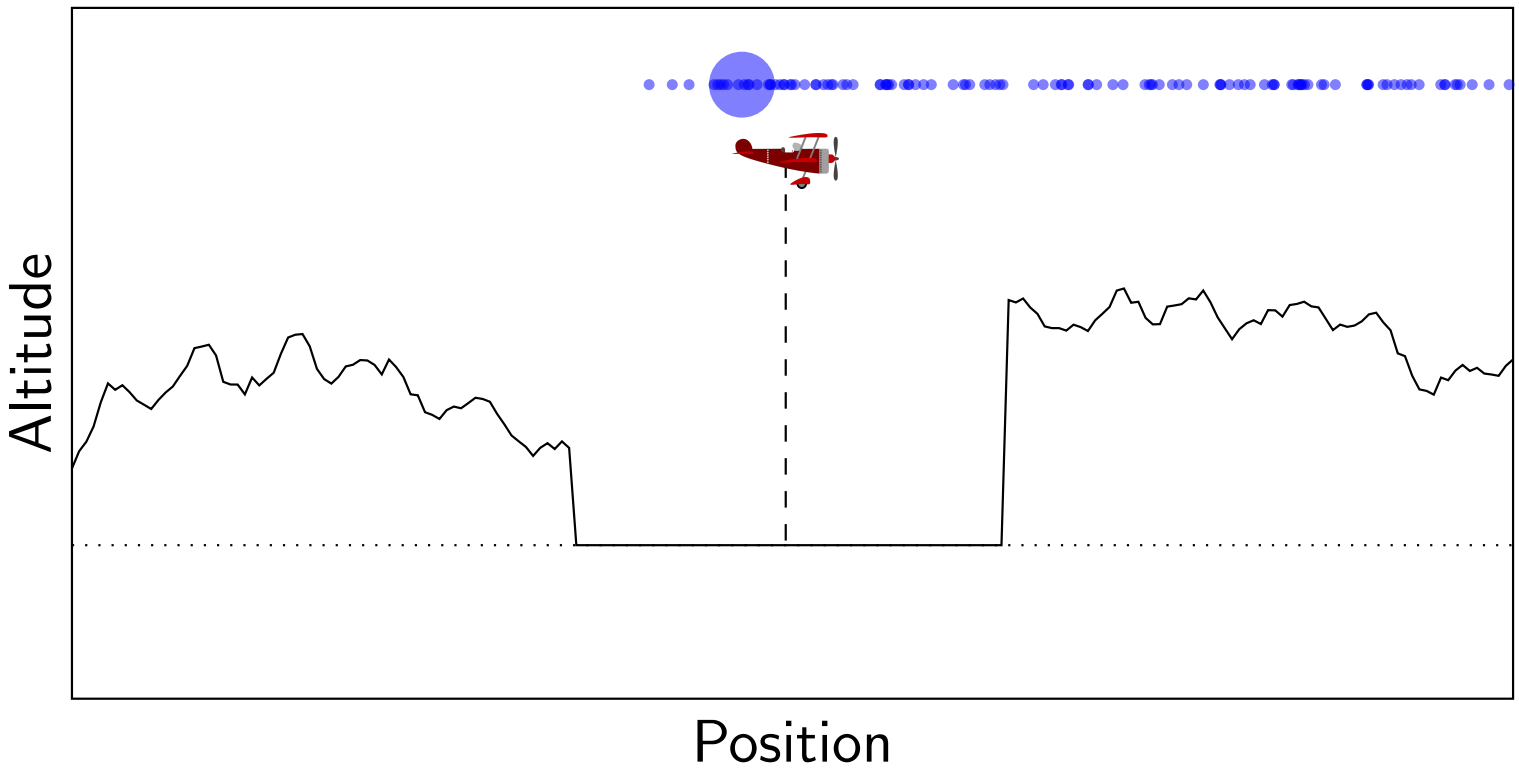
Importance sampling

Propagate, weigh



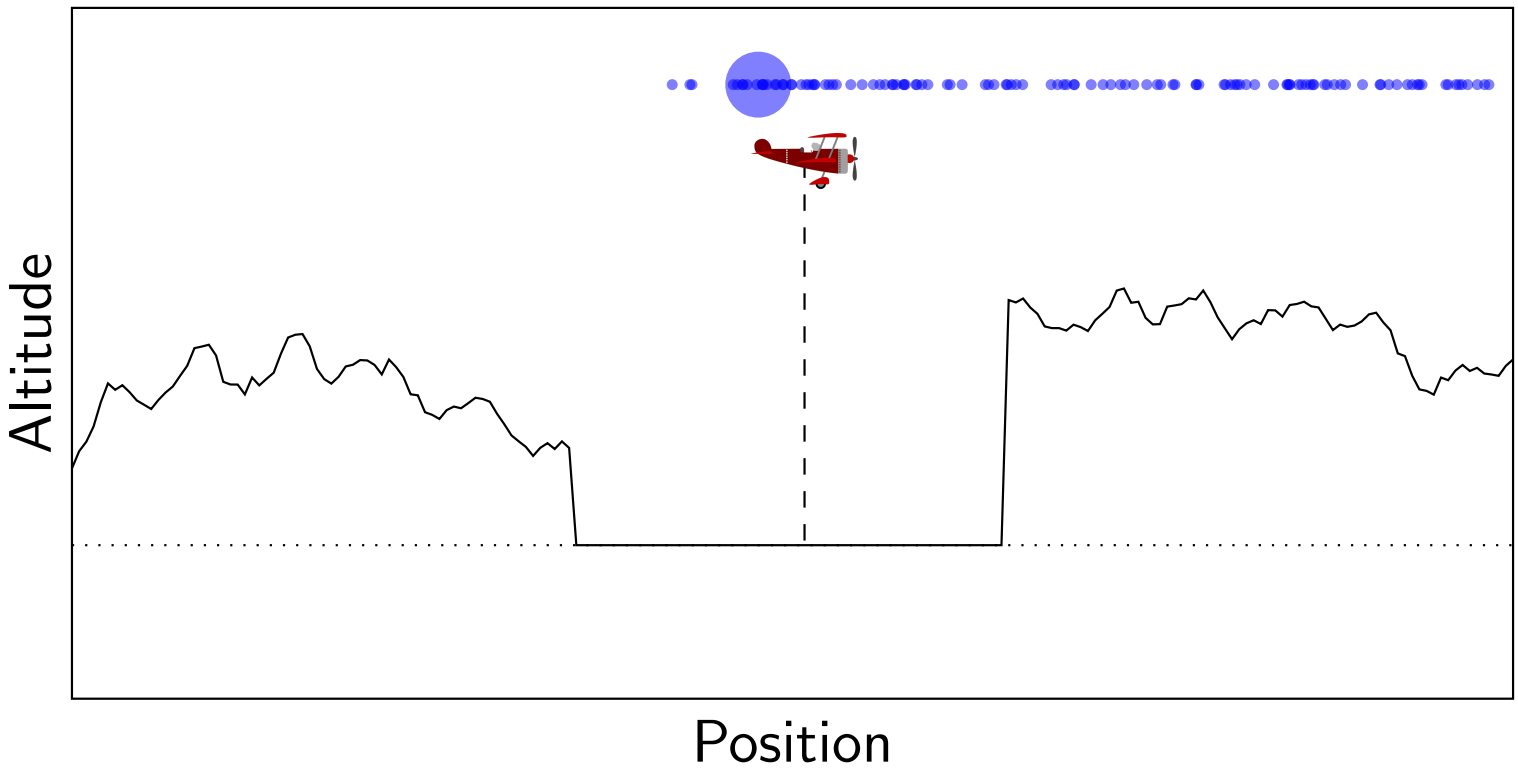
Importance sampling

Propagate, weigh



Importance sampling

Propagate, weigh



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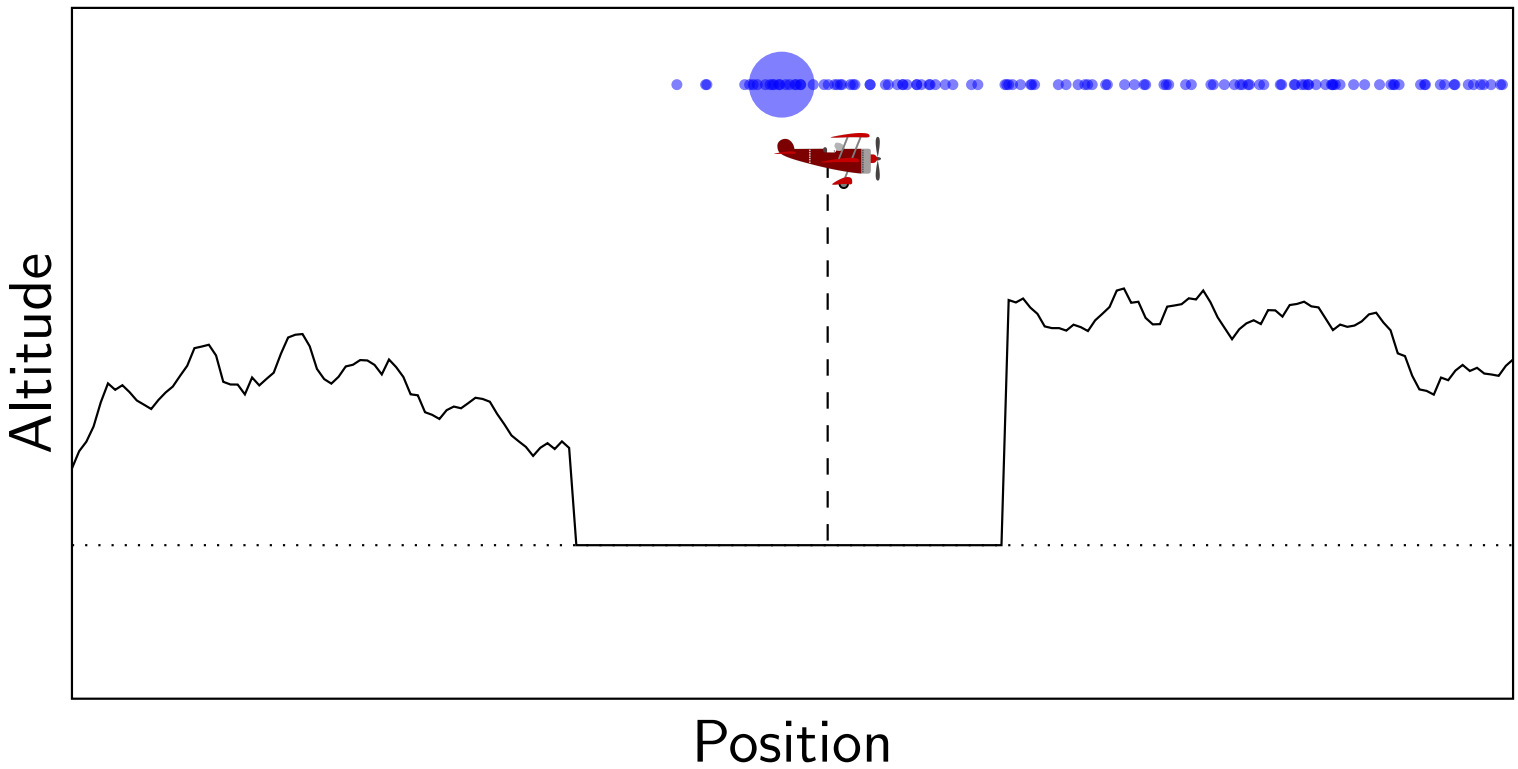

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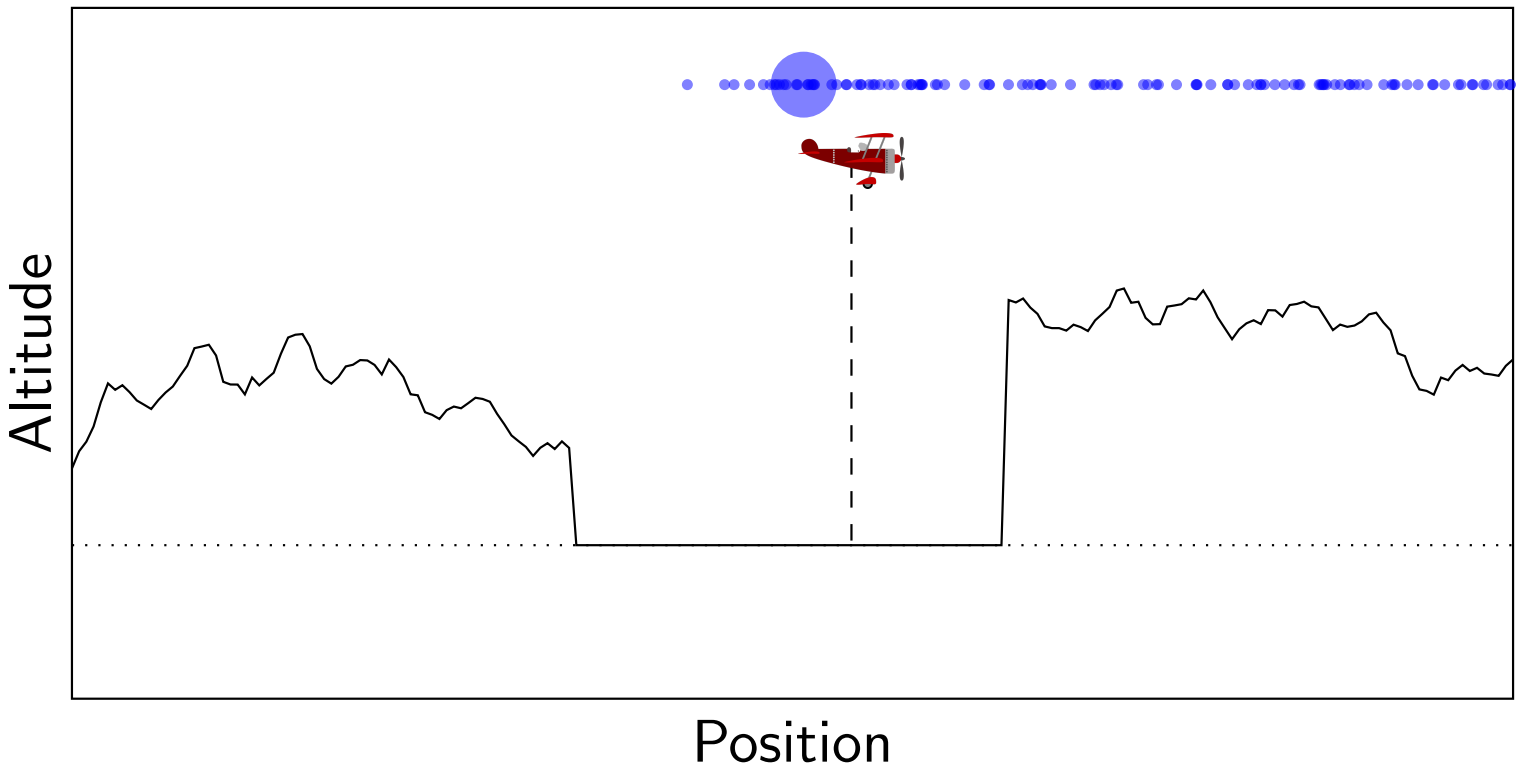
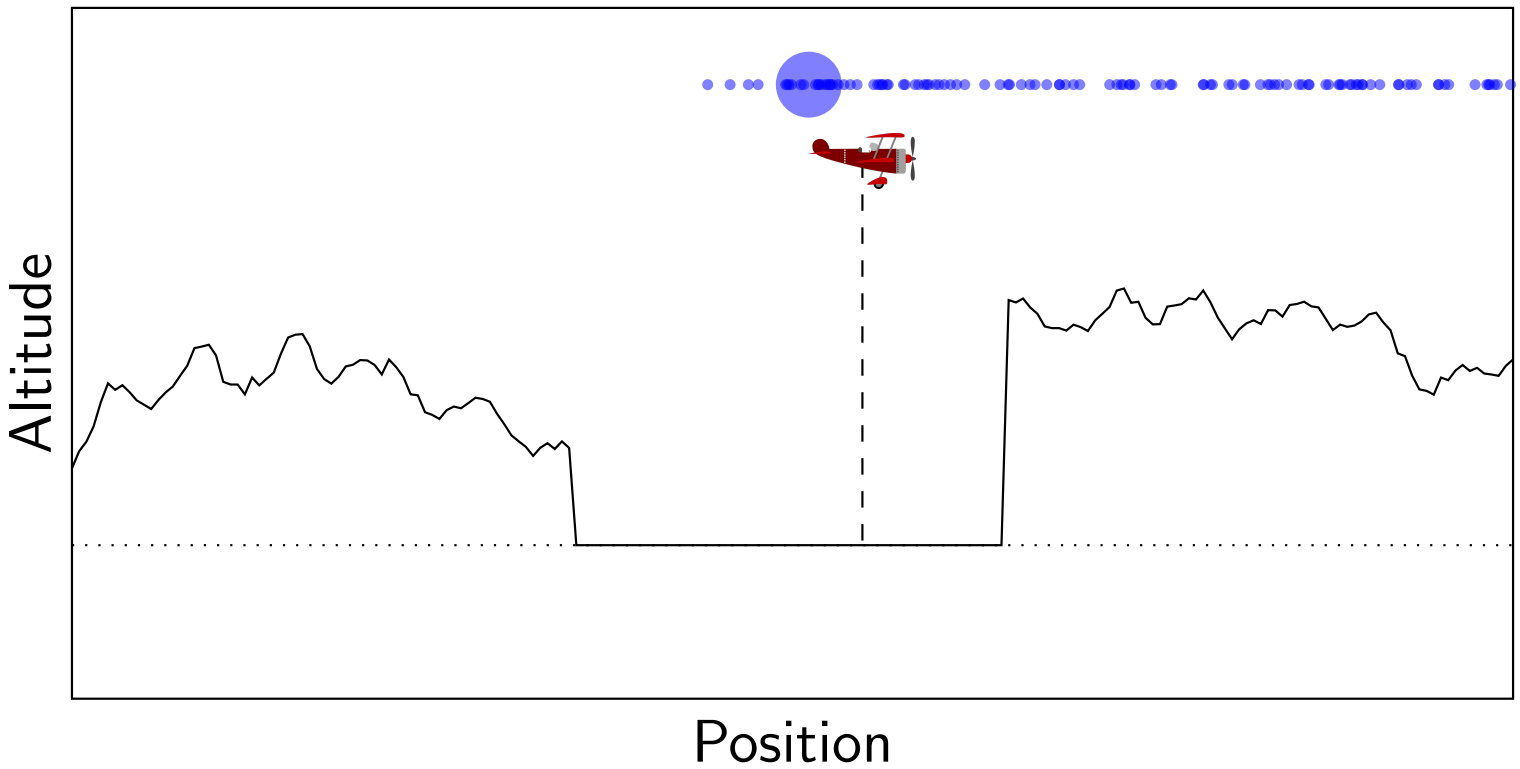
Propagate, weigh



Importance sampling

Propagate, weigh



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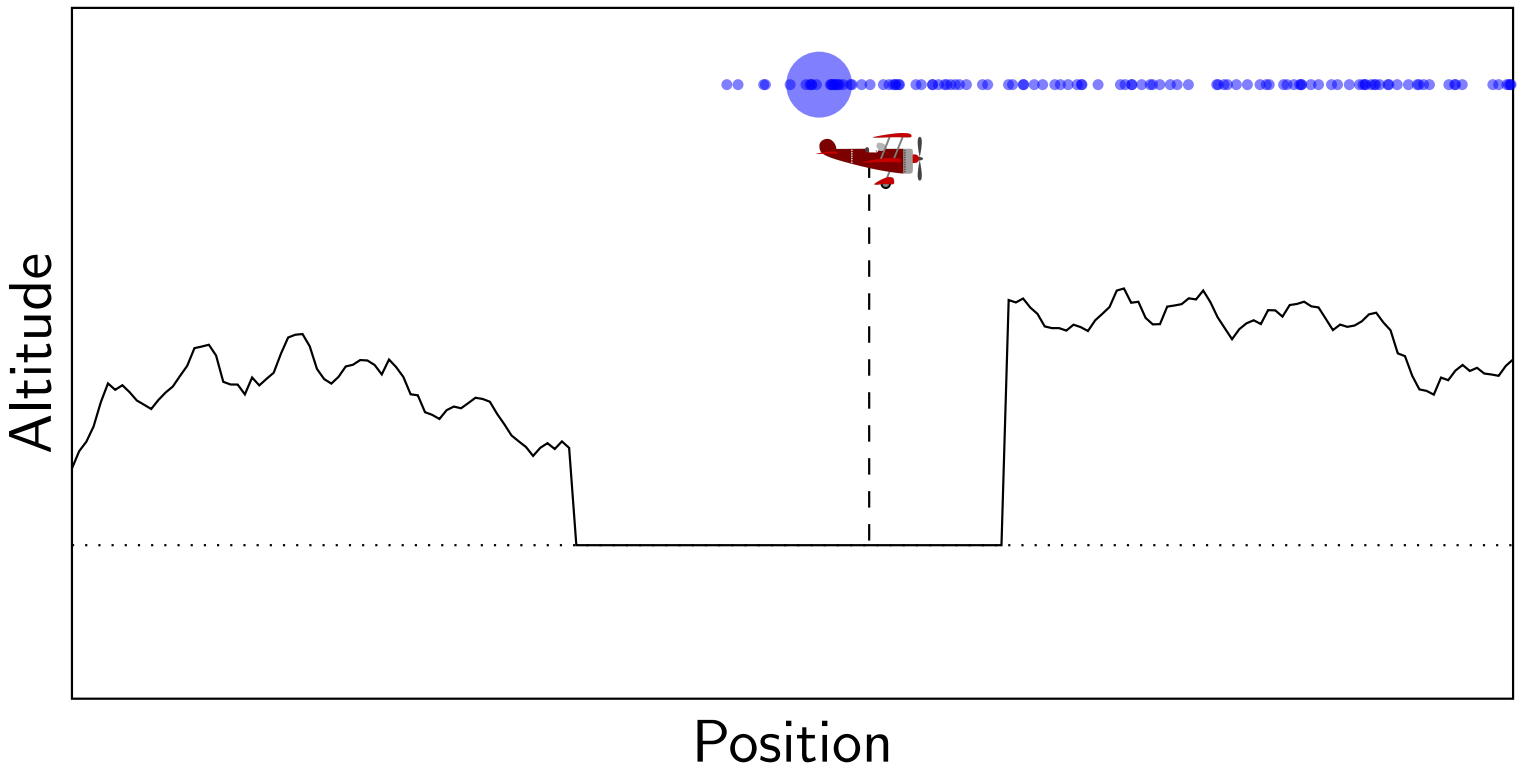

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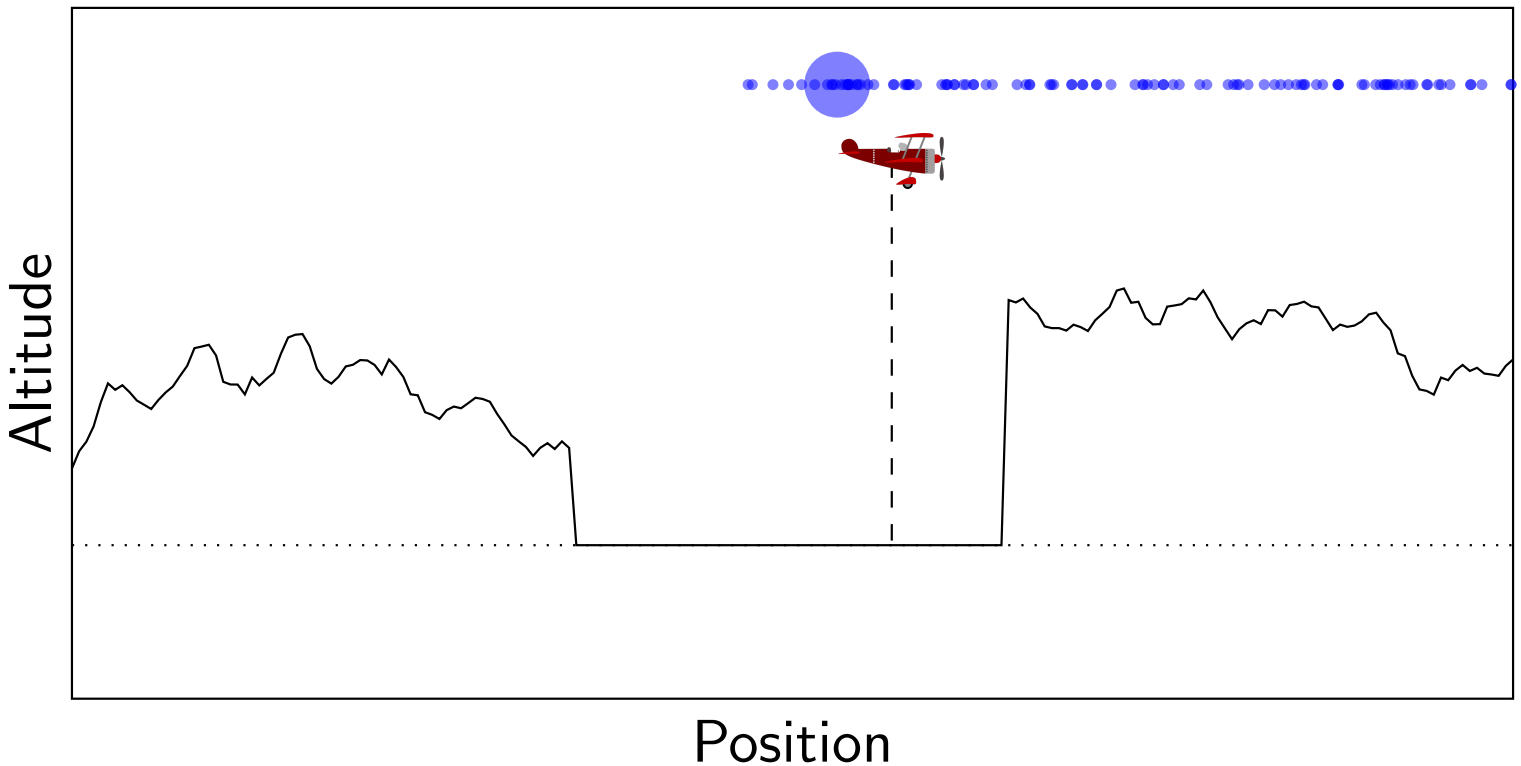

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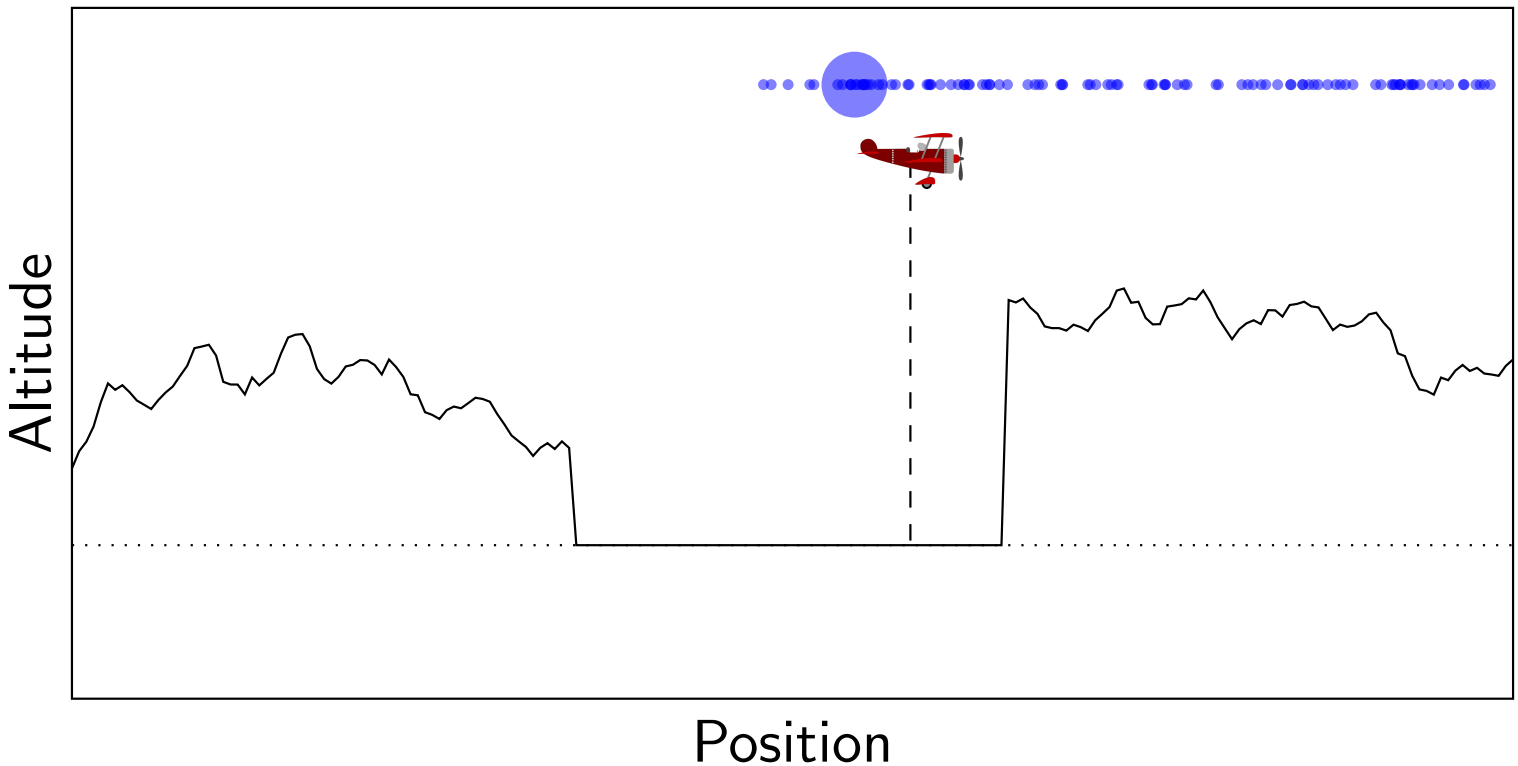
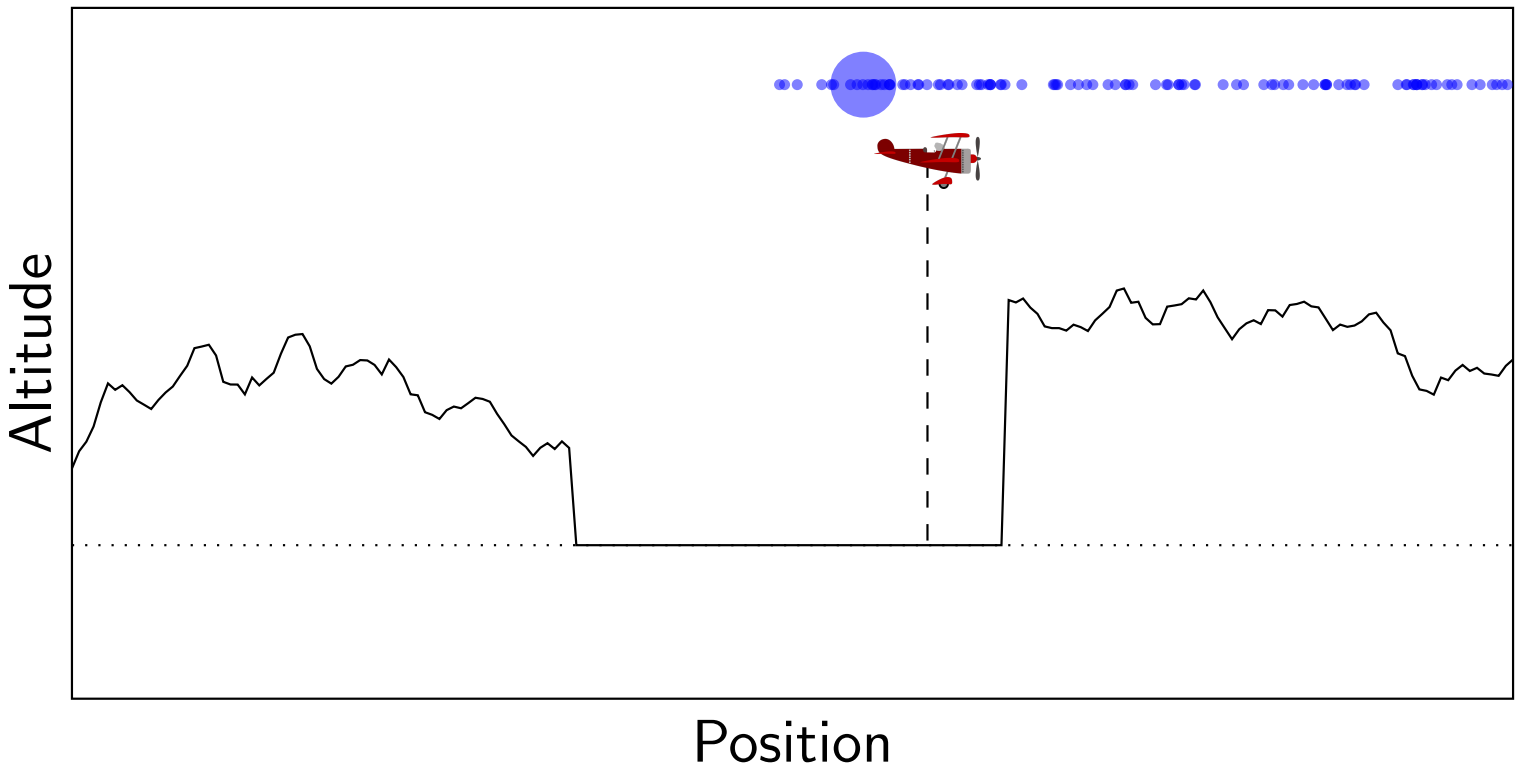
Propagate, weigh



Importance sampling

Propagate, weigh



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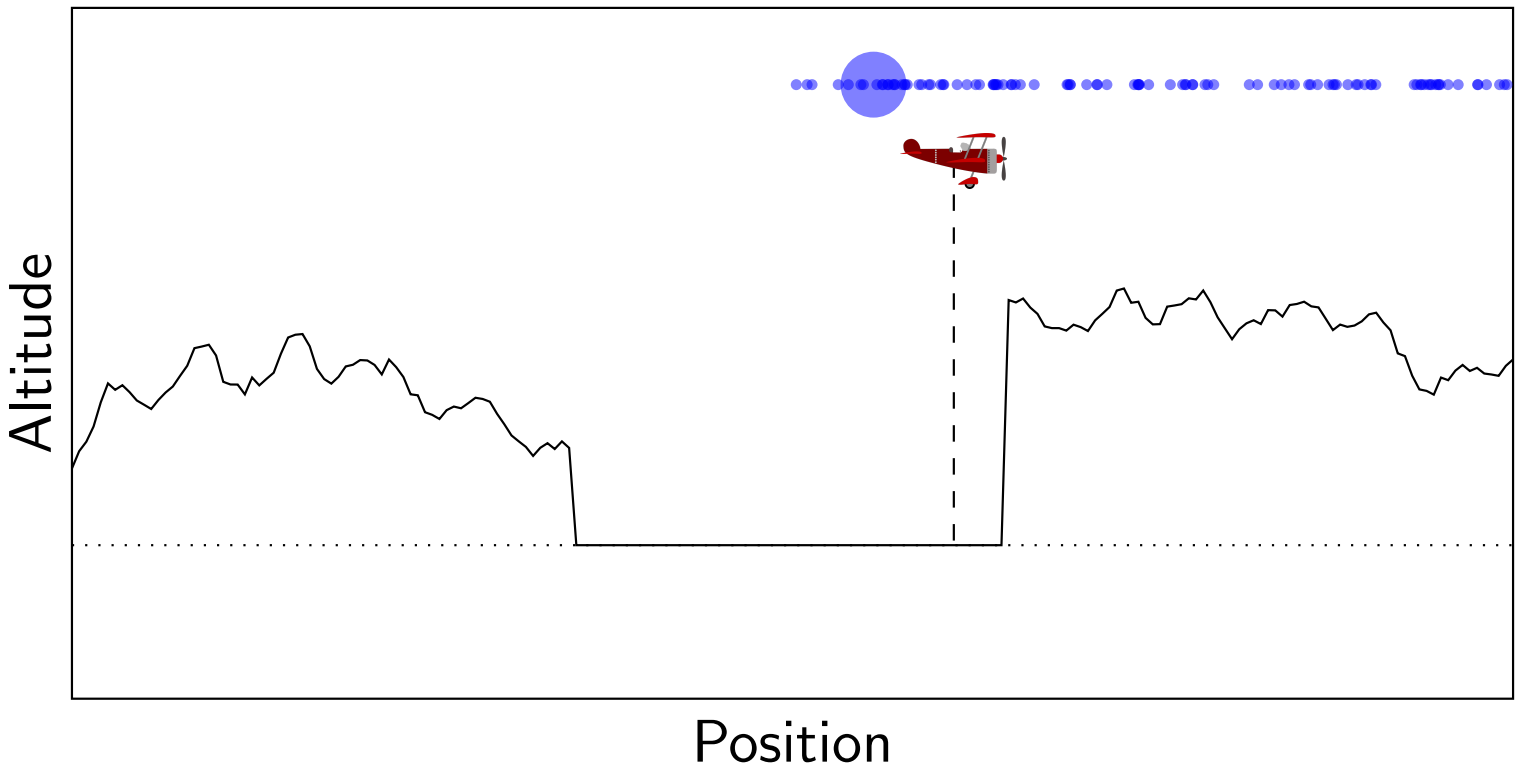
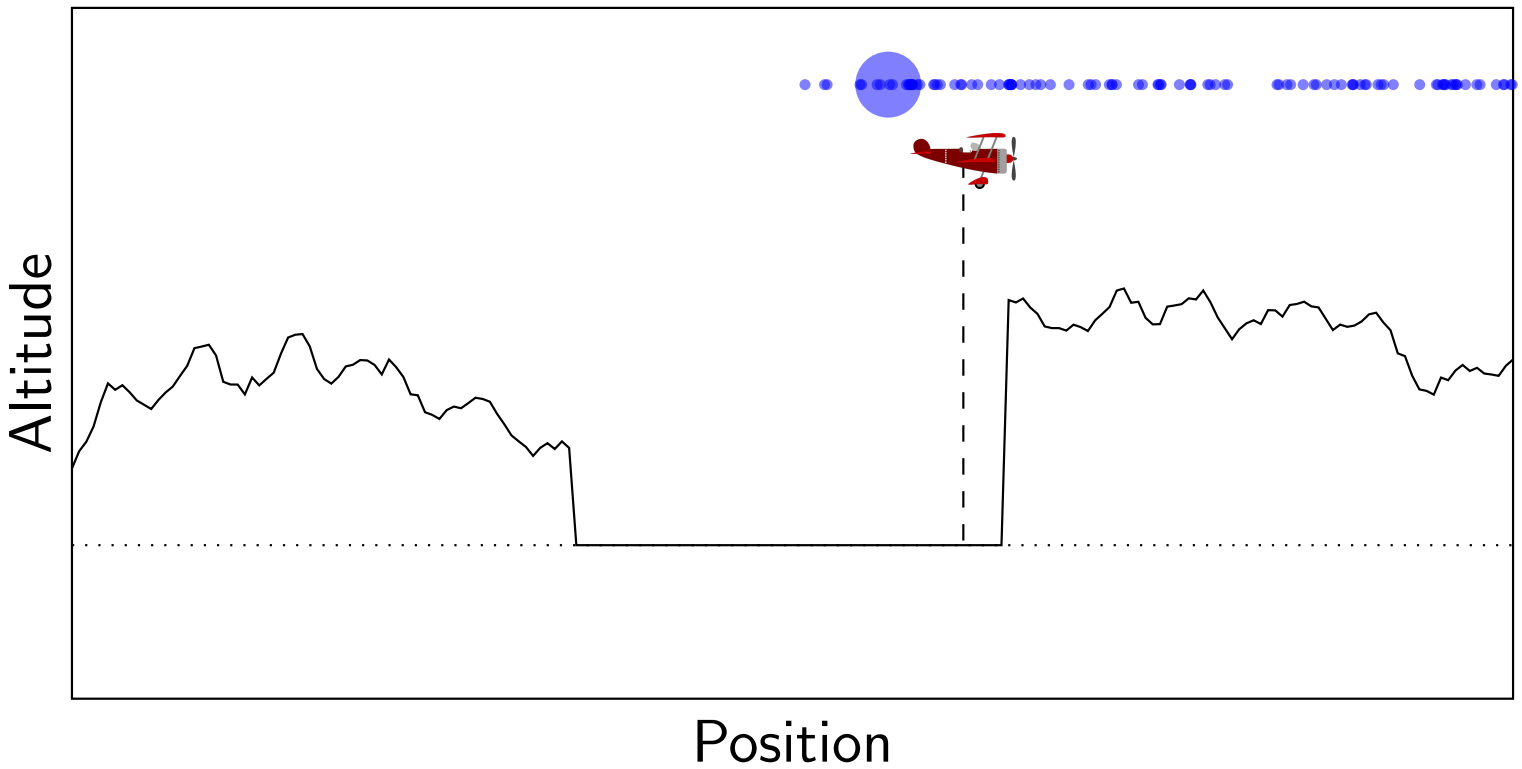


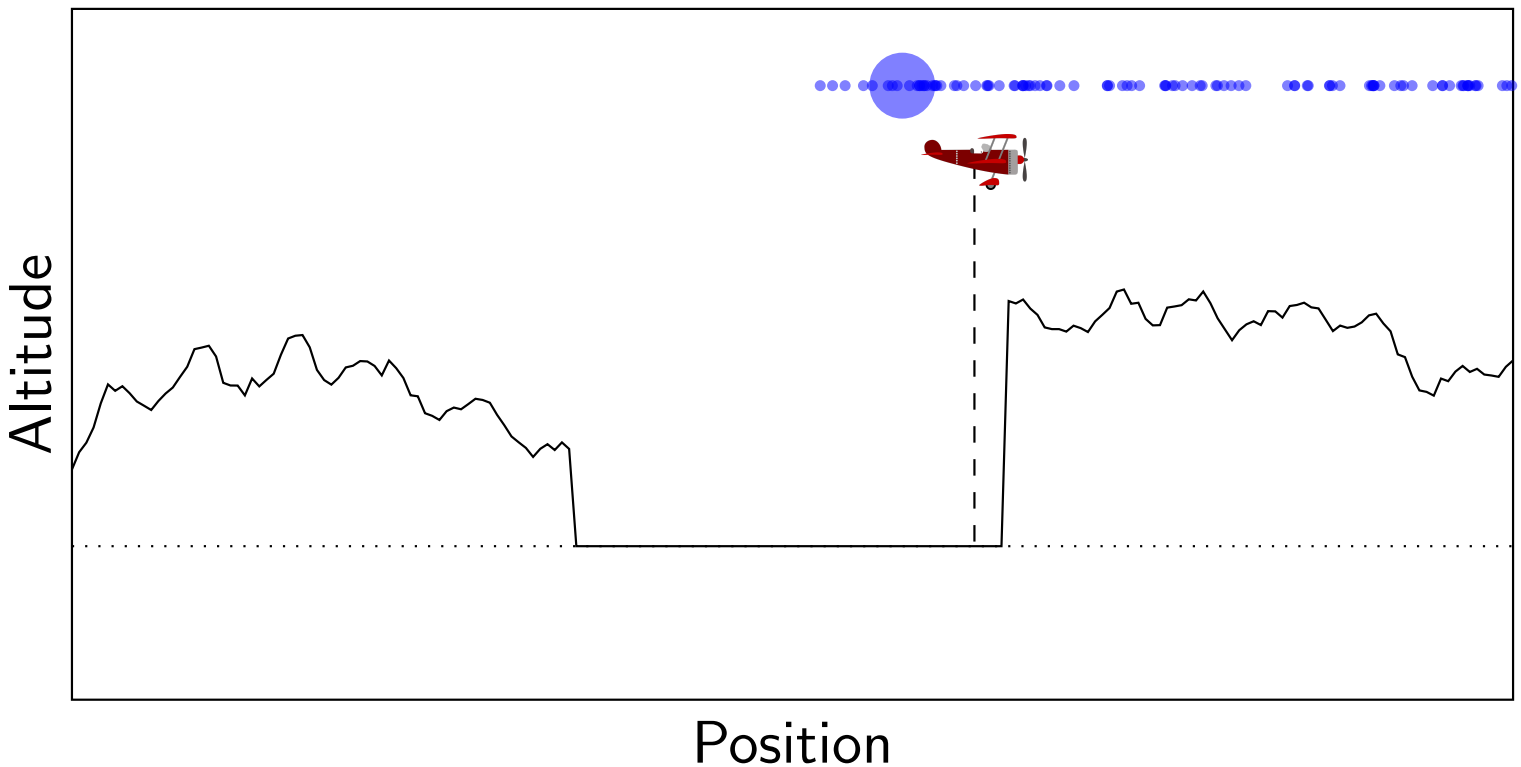
Importance sampling

Propagate, weigh



Importance sampling

Propagate, weigh



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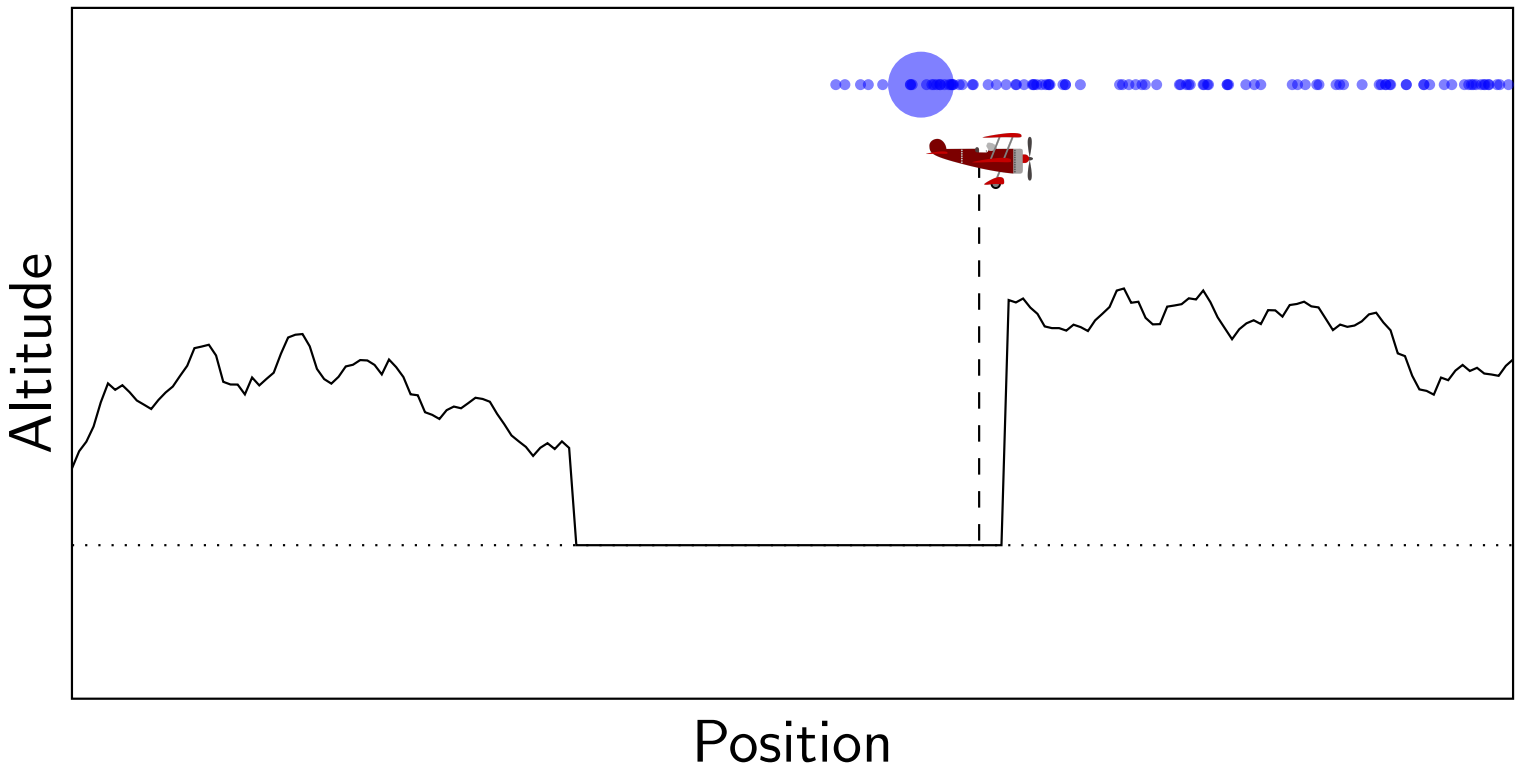
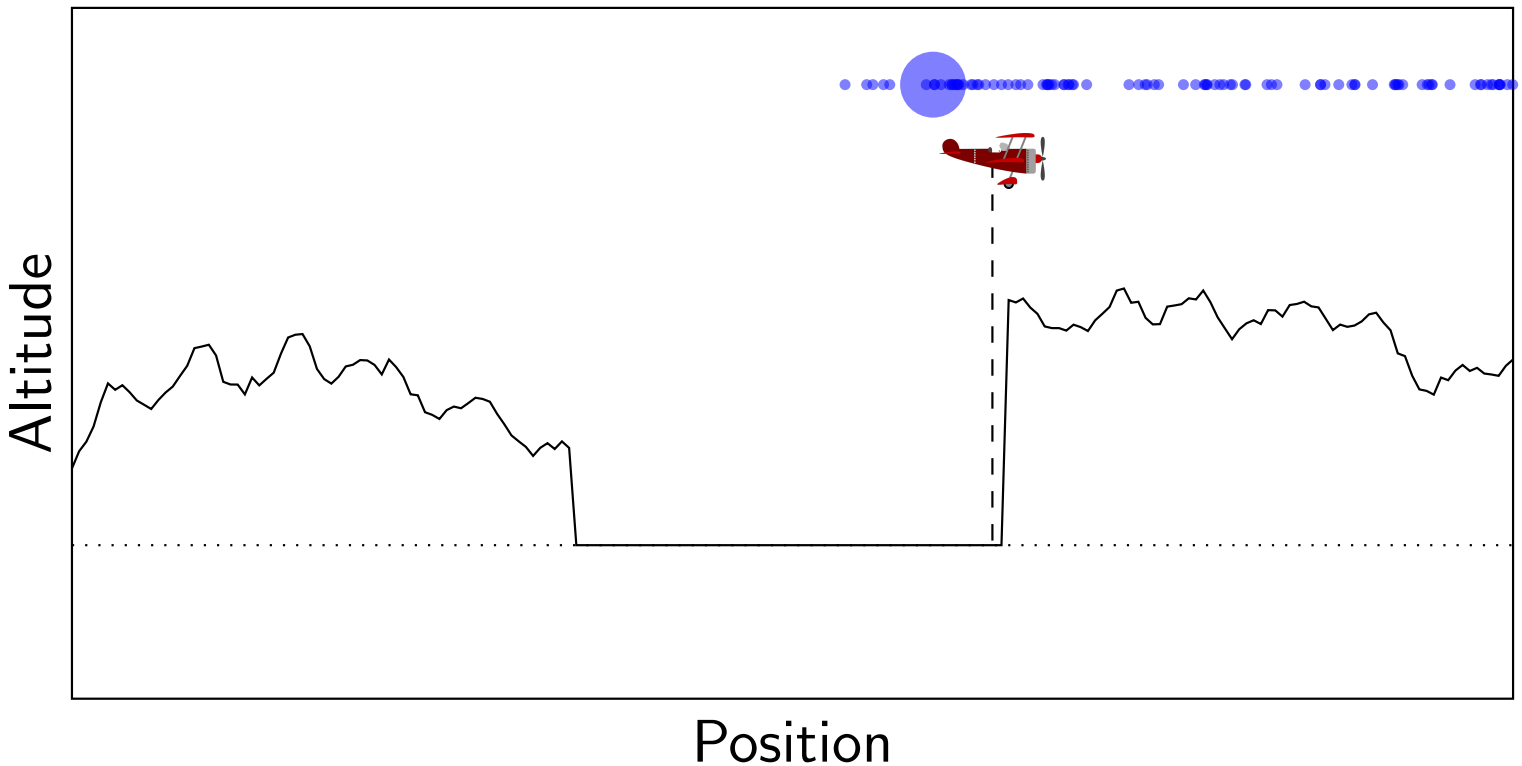


Importance sampling

Propagate, weigh



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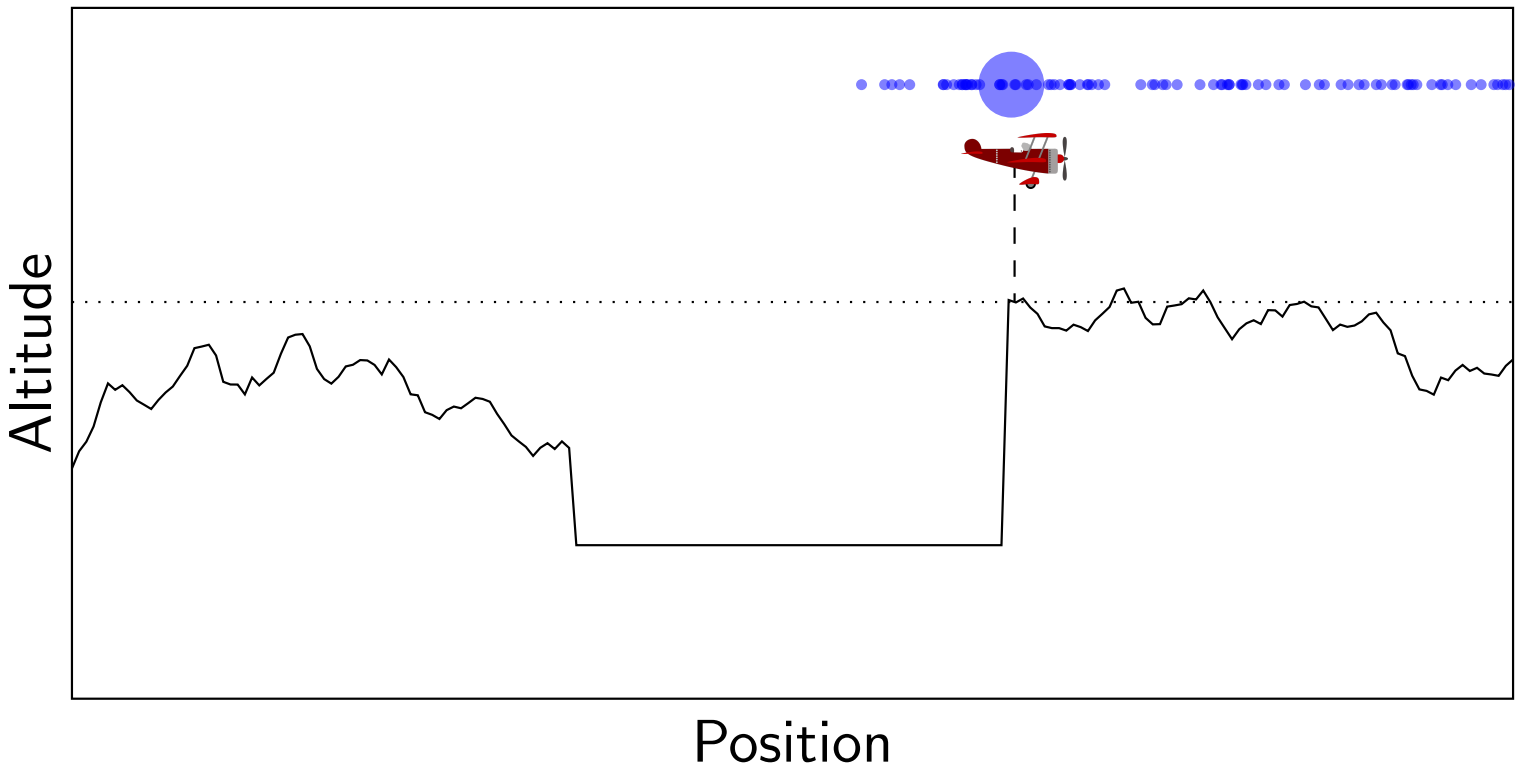
Propagate, weigh



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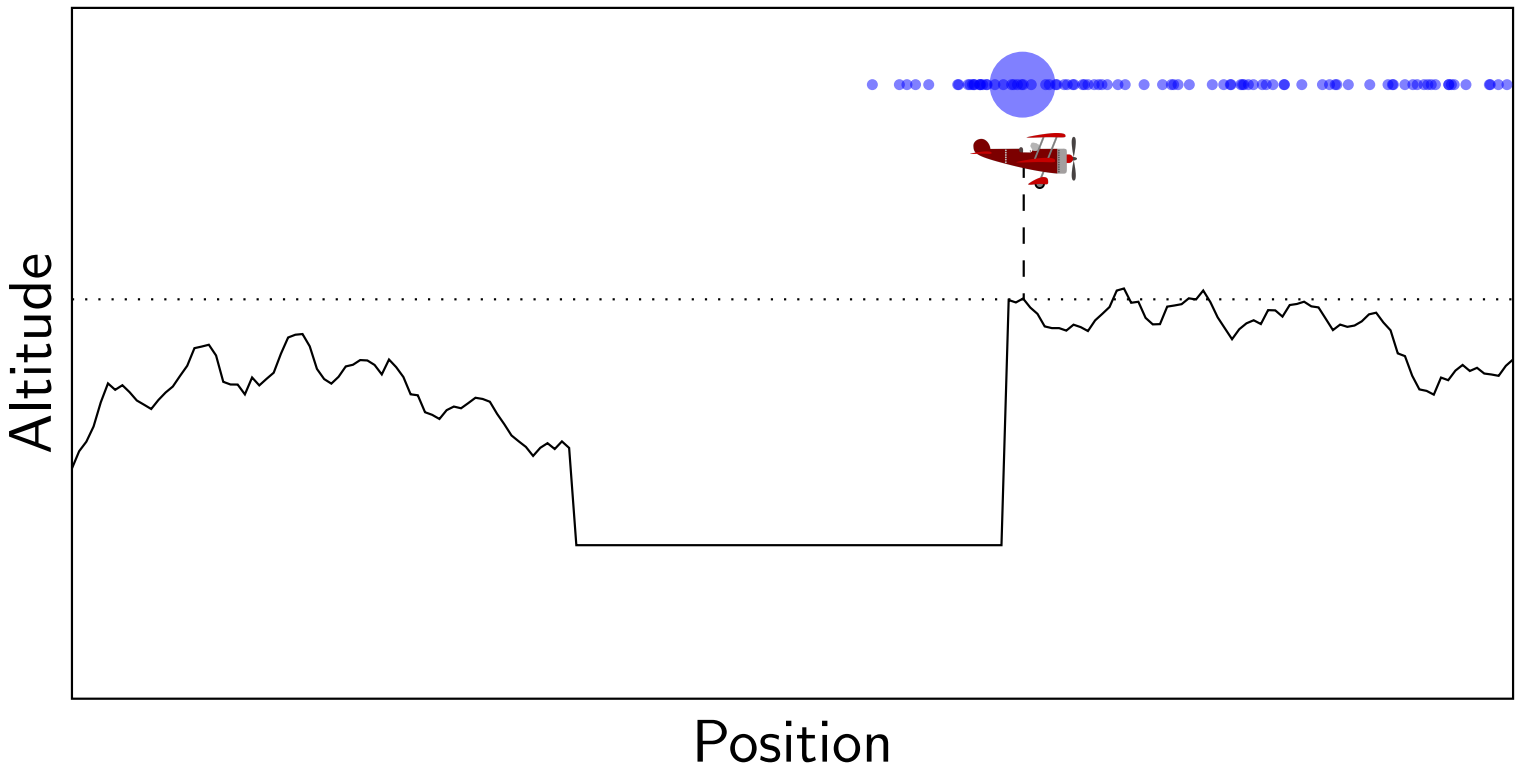
Propagate, weigh



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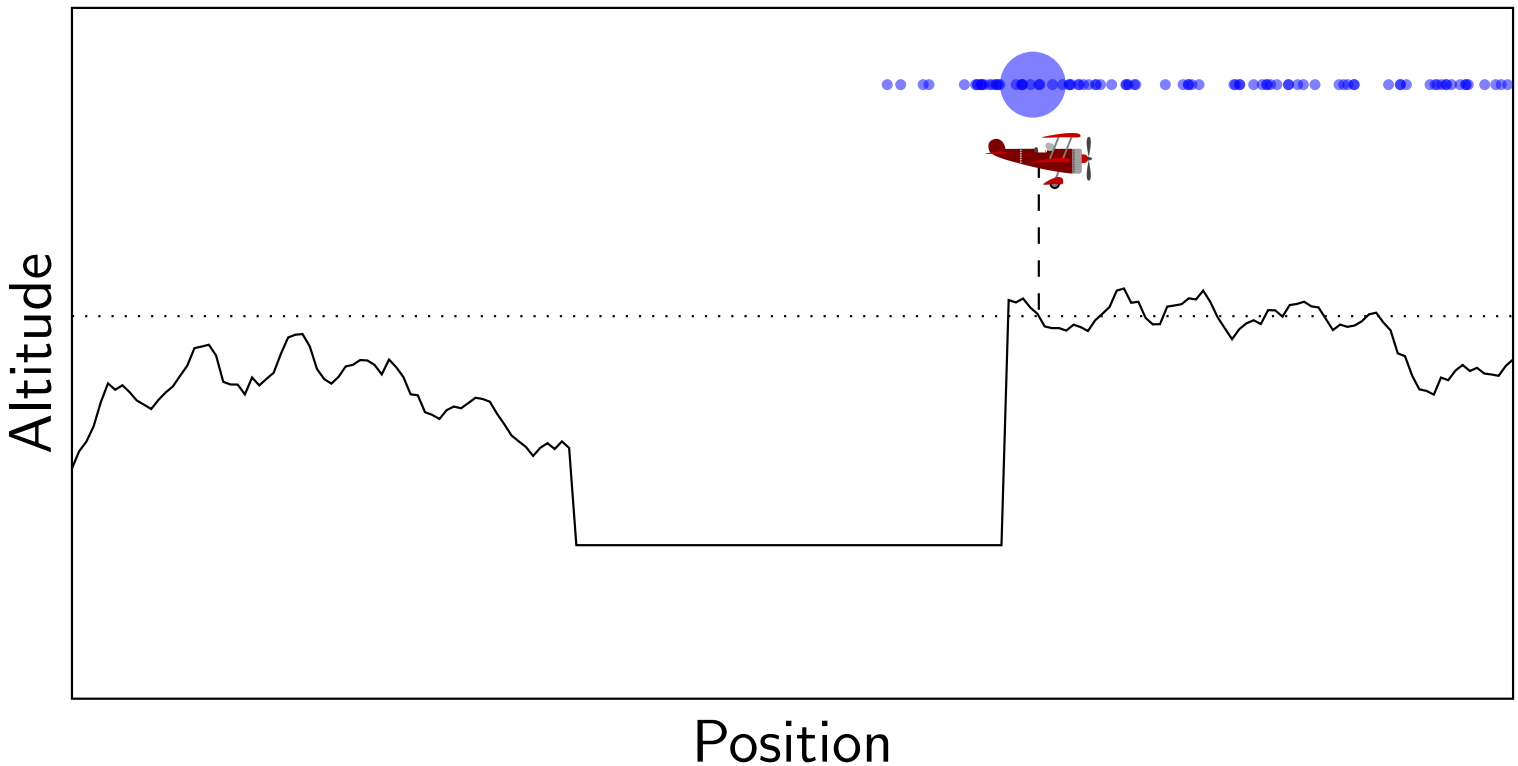

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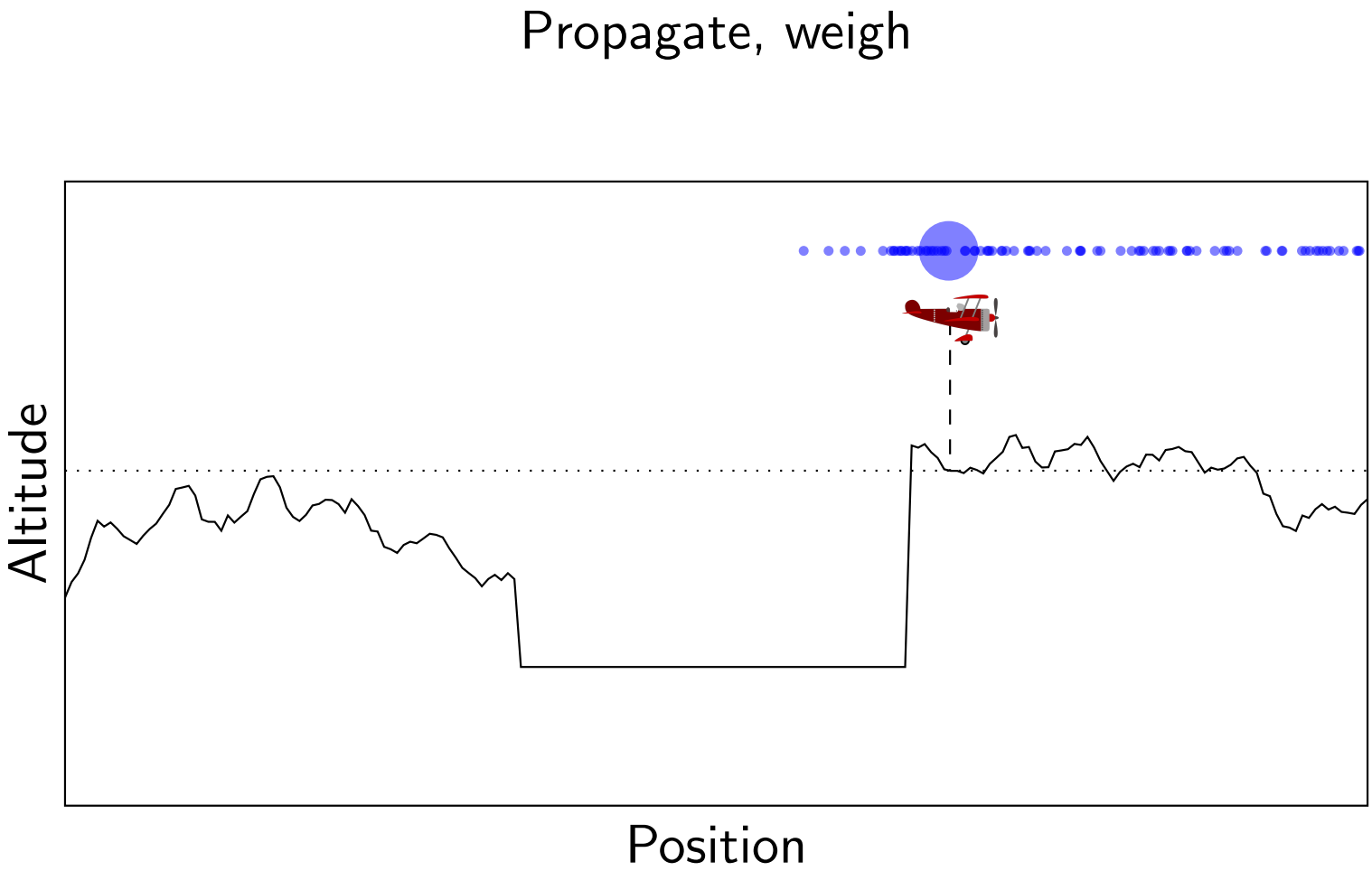

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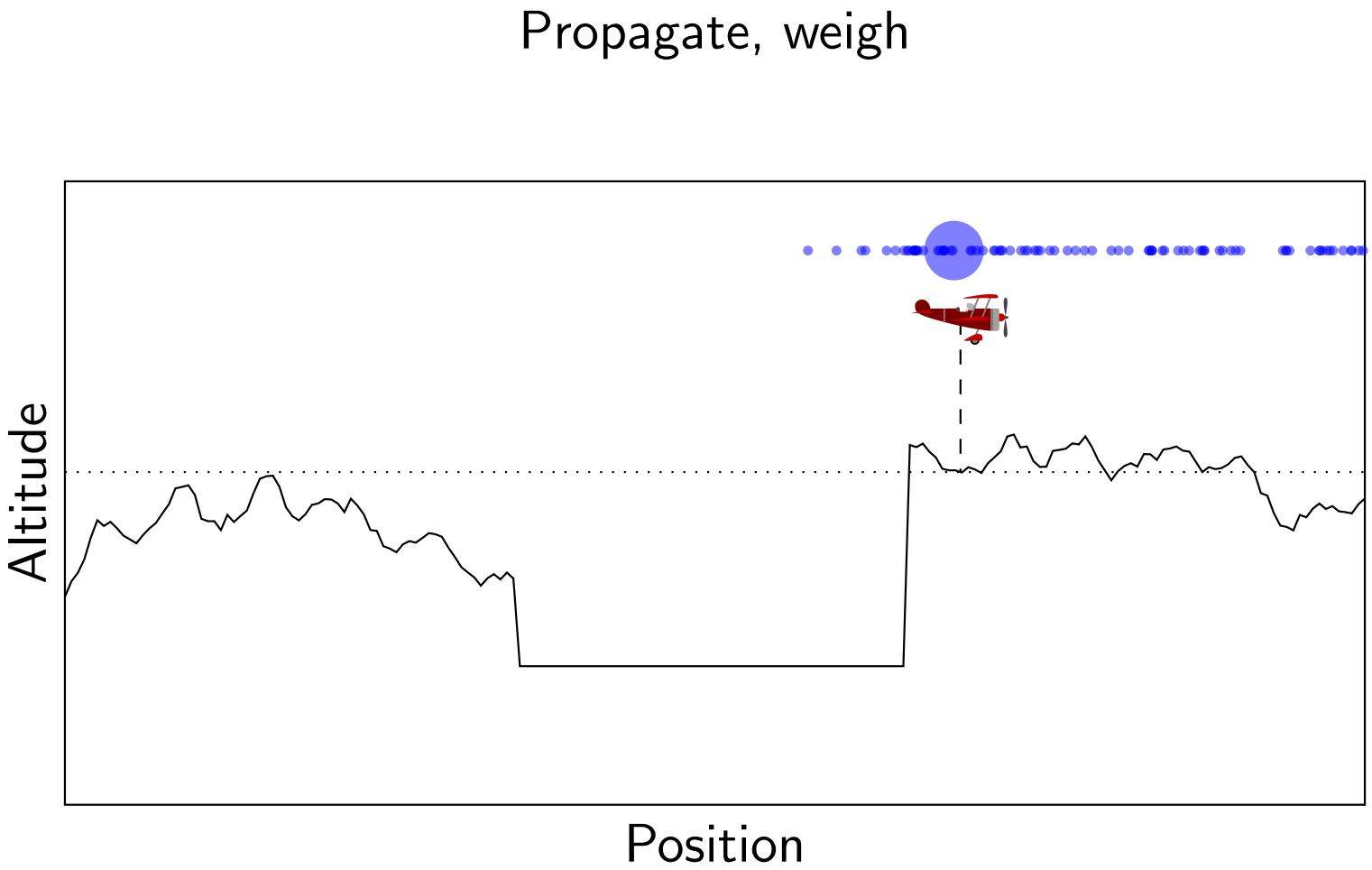

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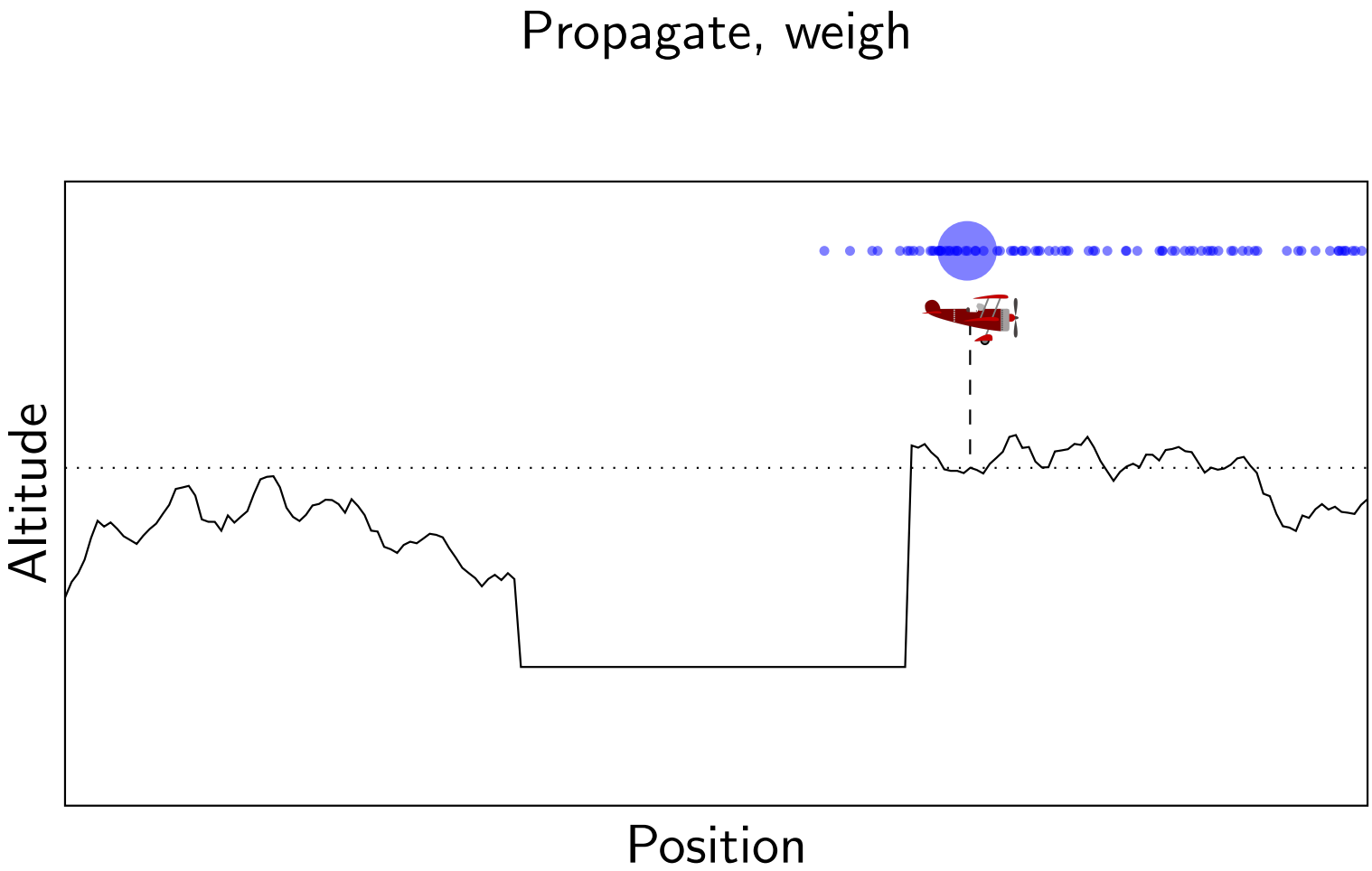

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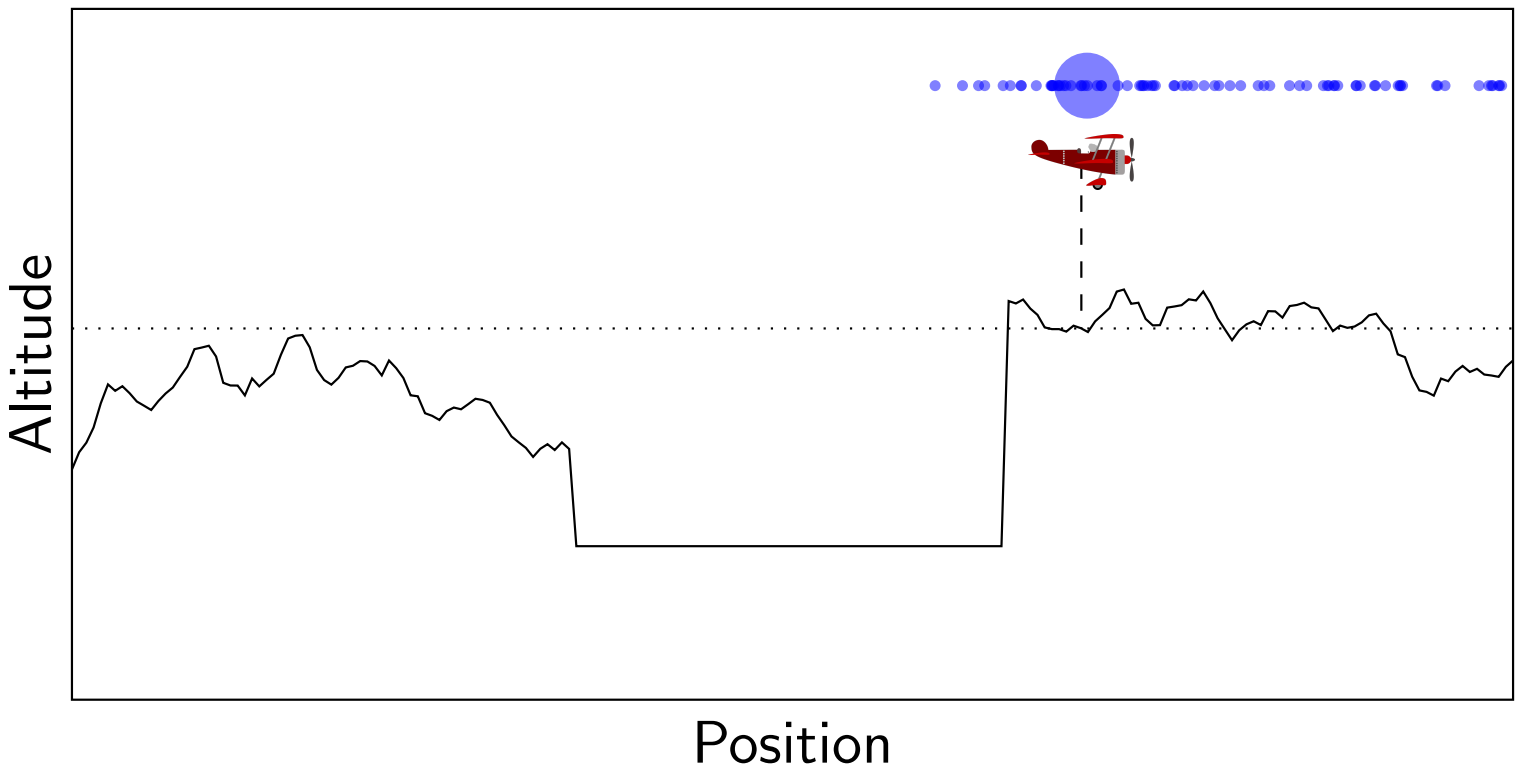

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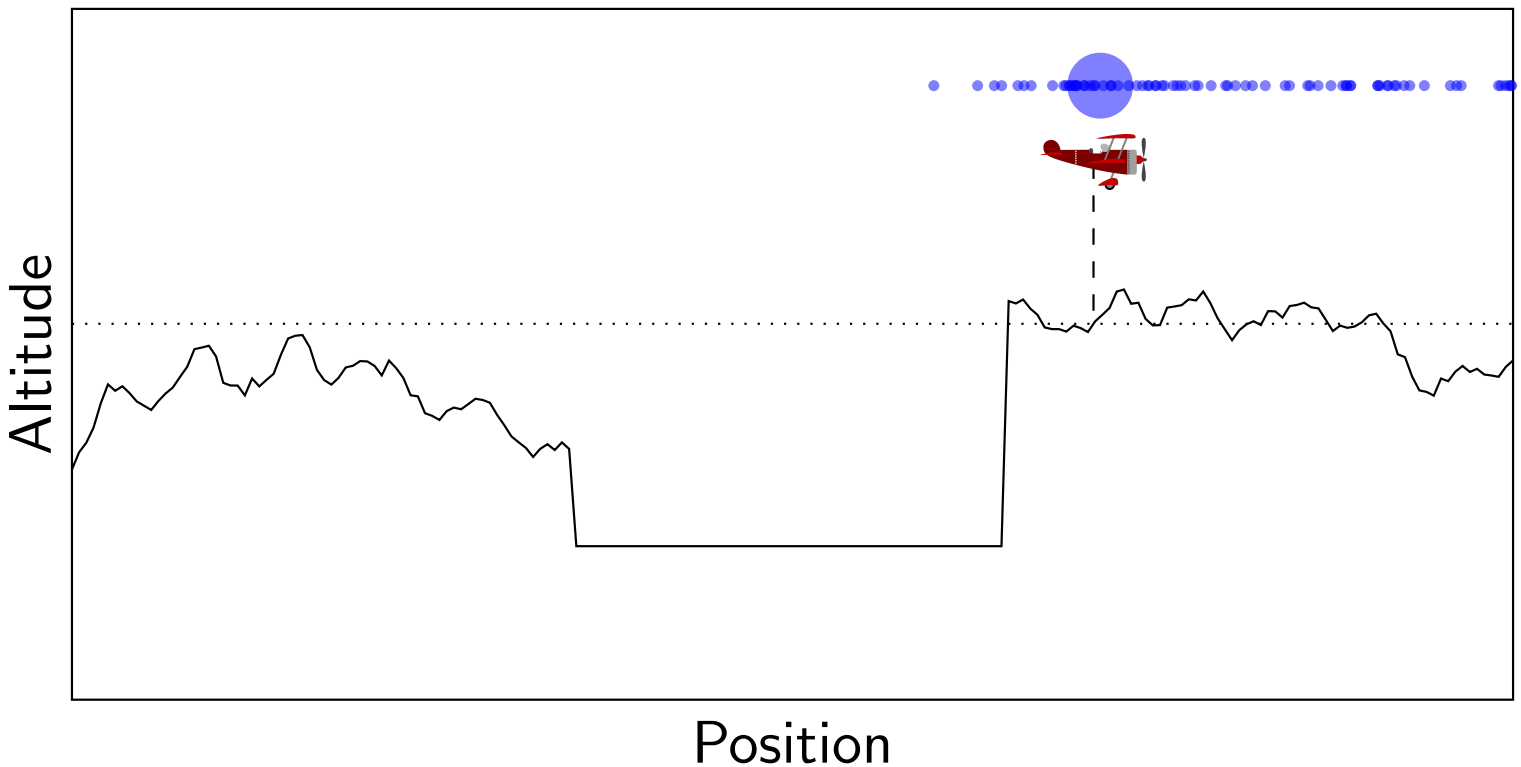

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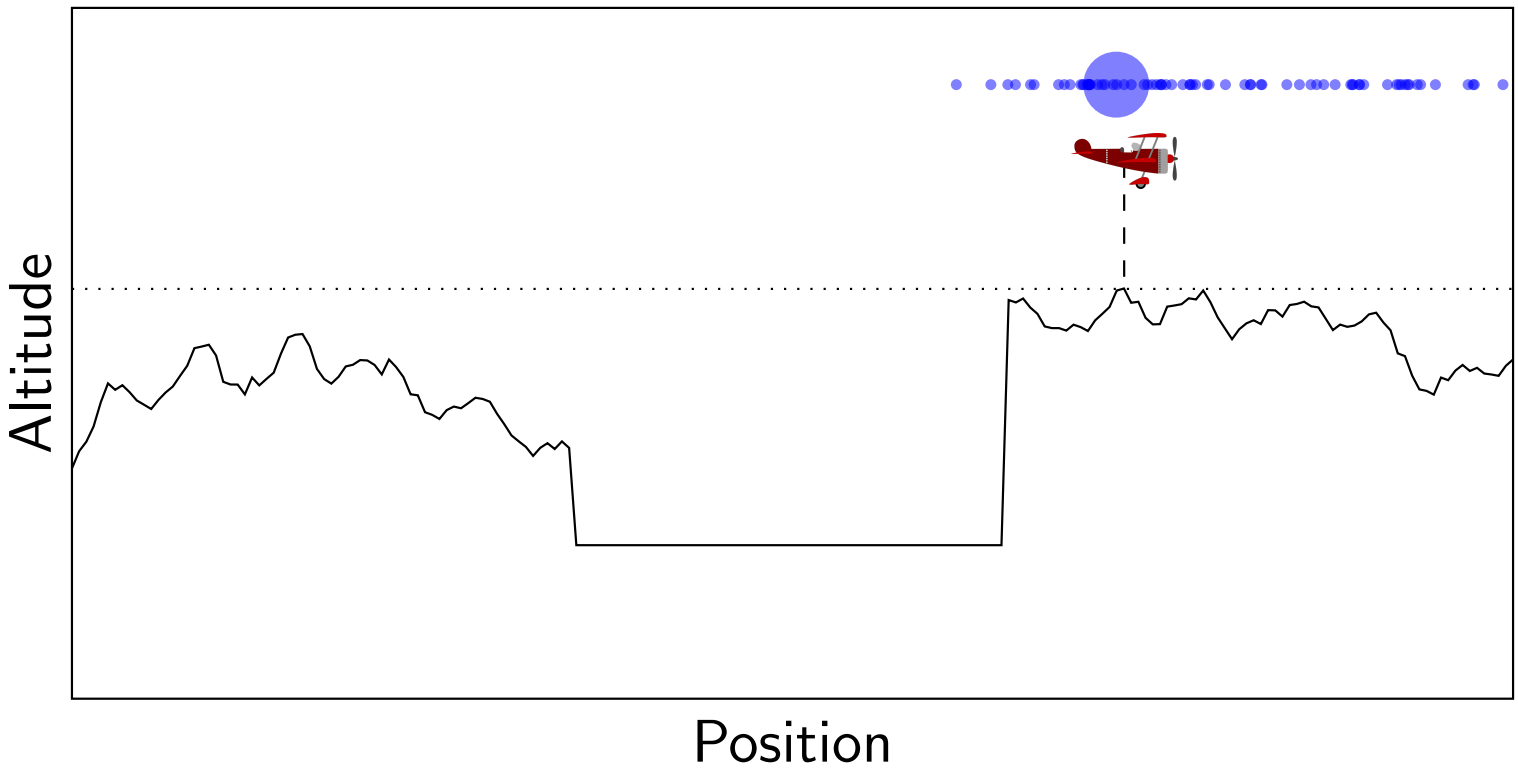

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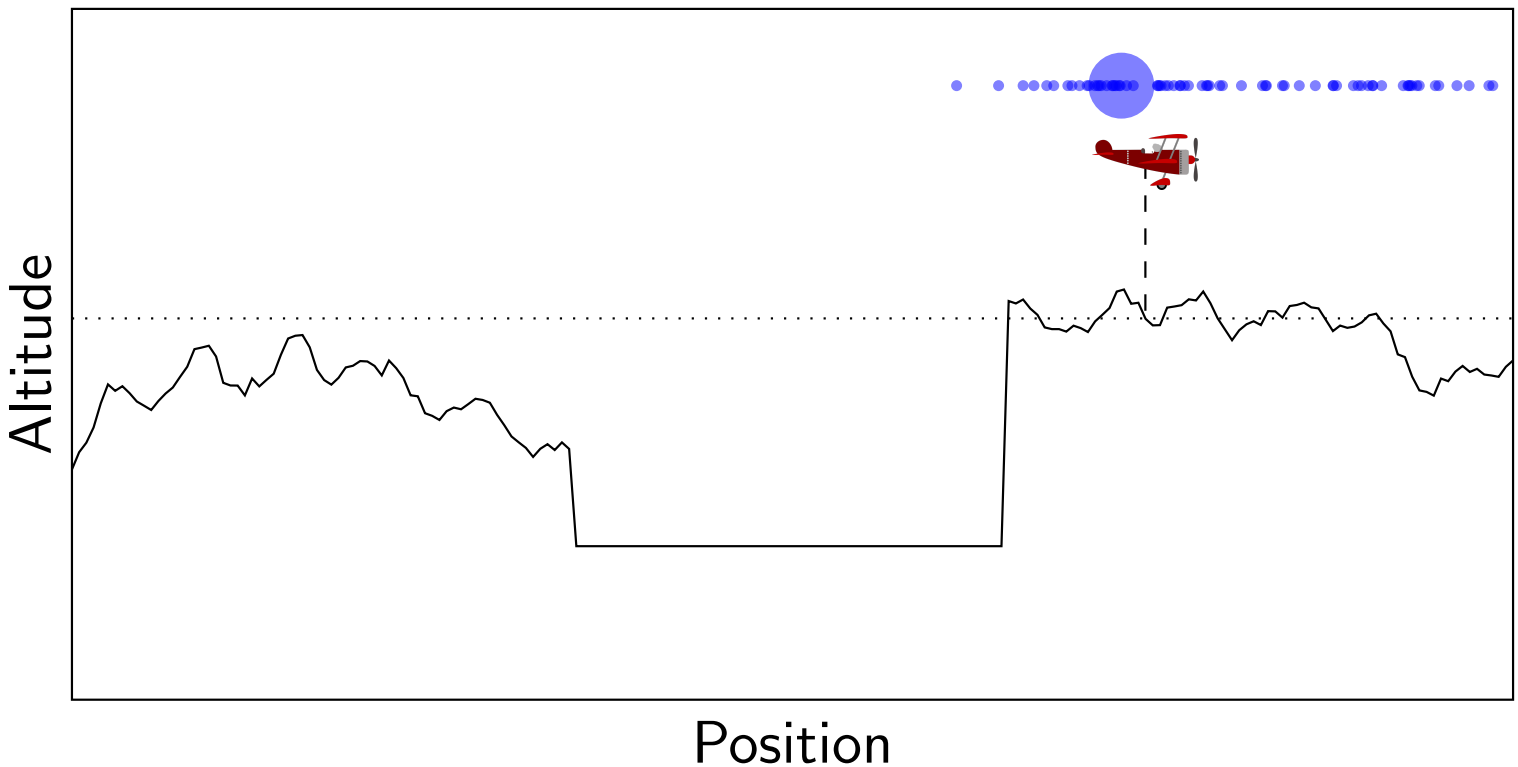

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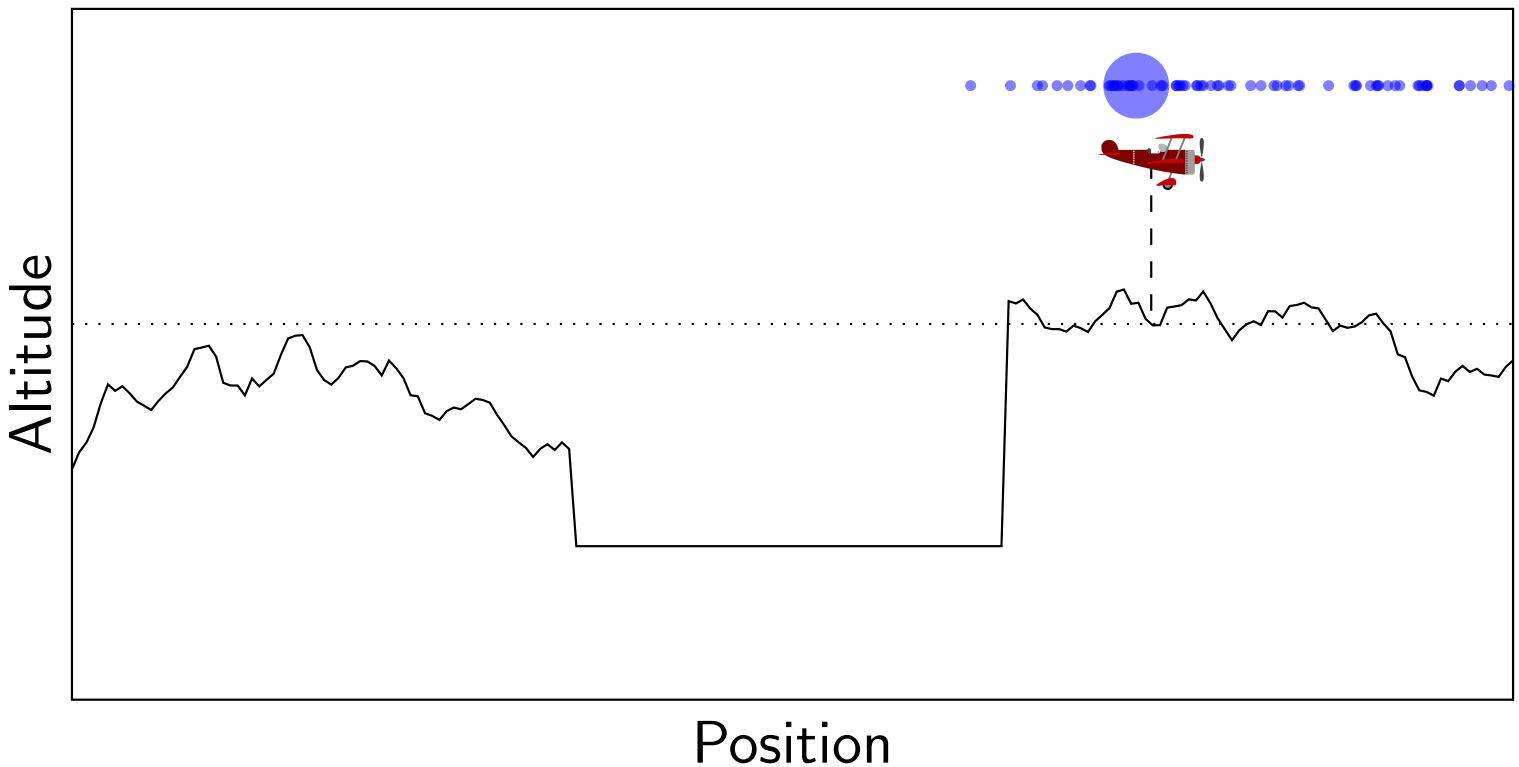

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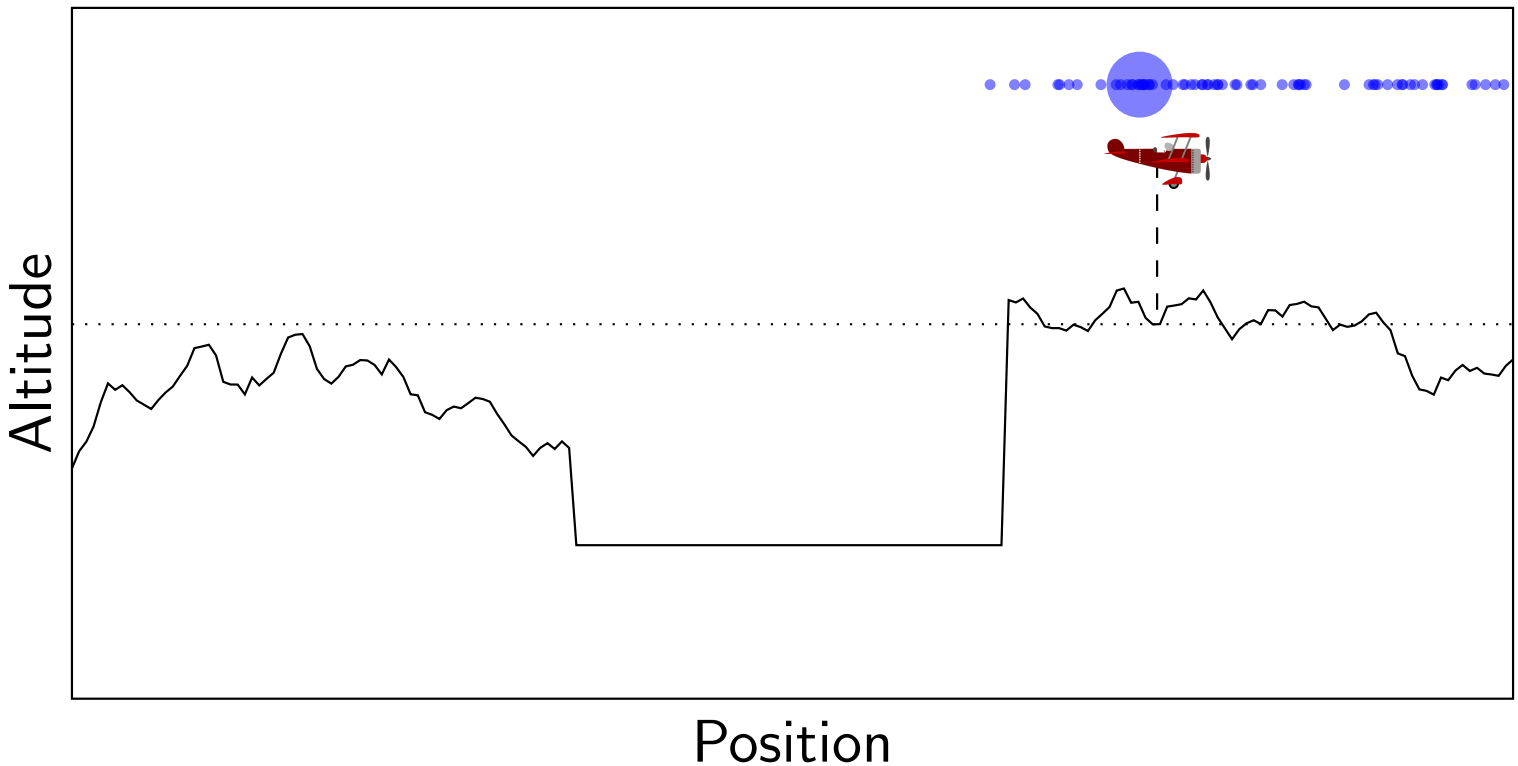

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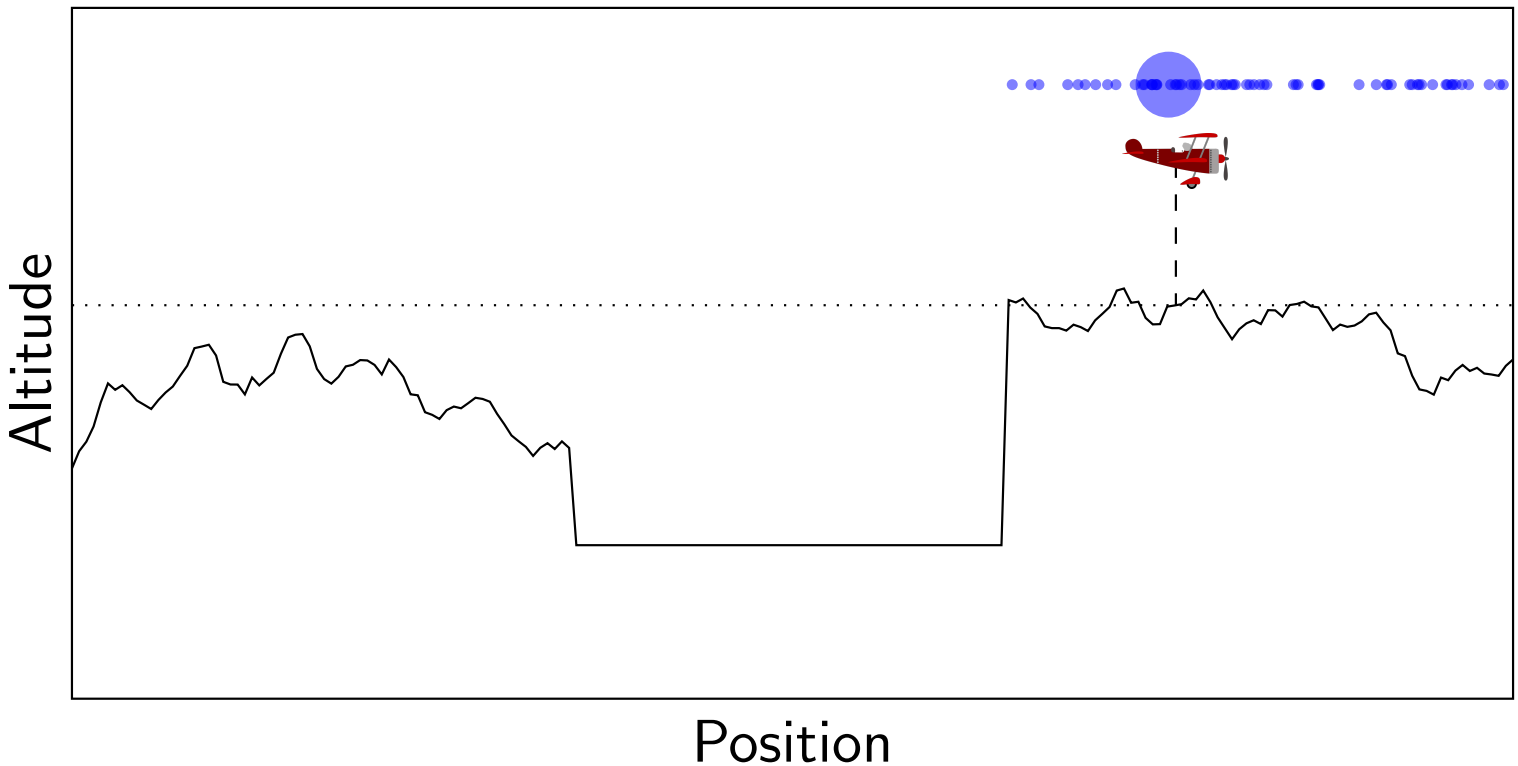

Importance sampling

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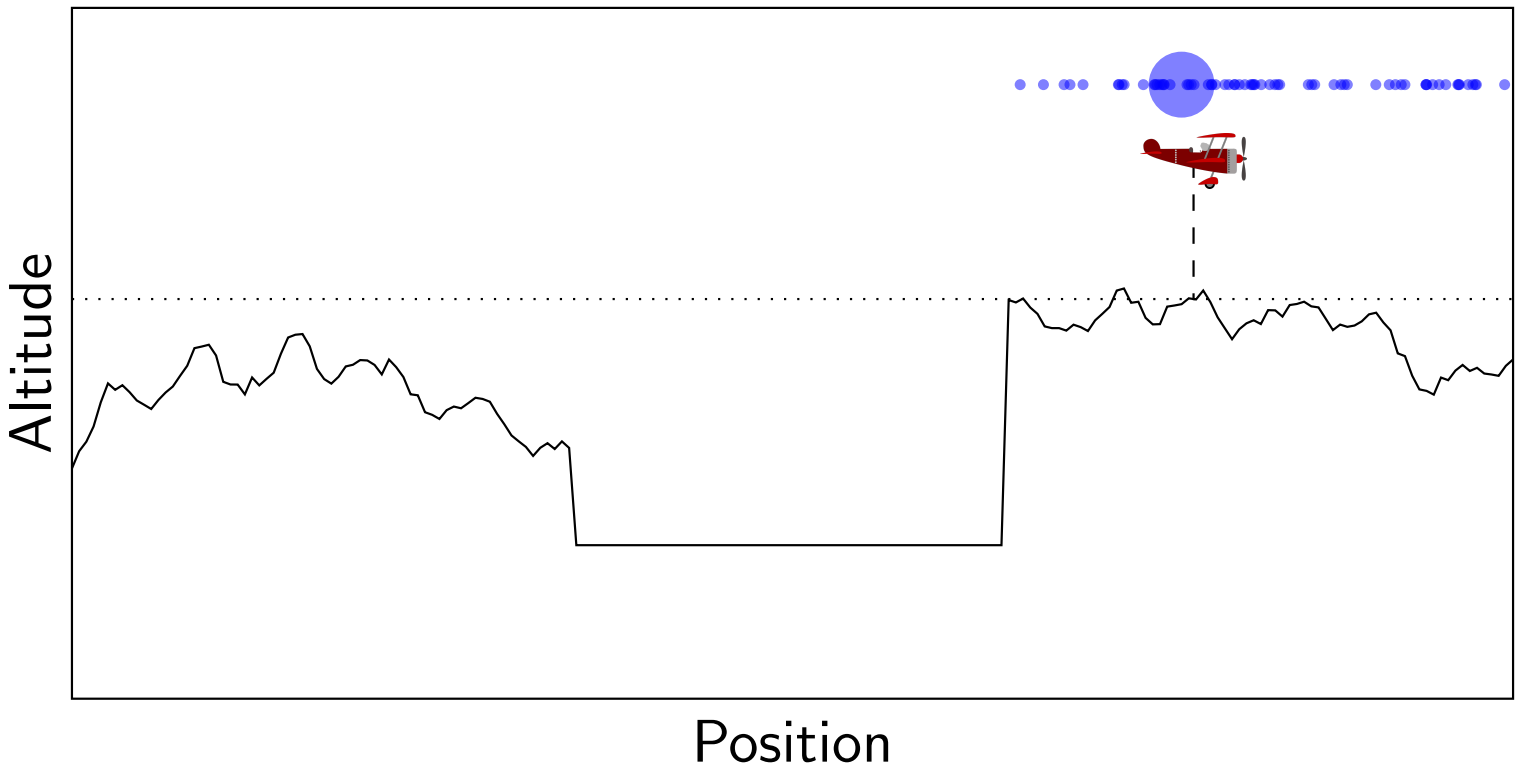

Importance sampling

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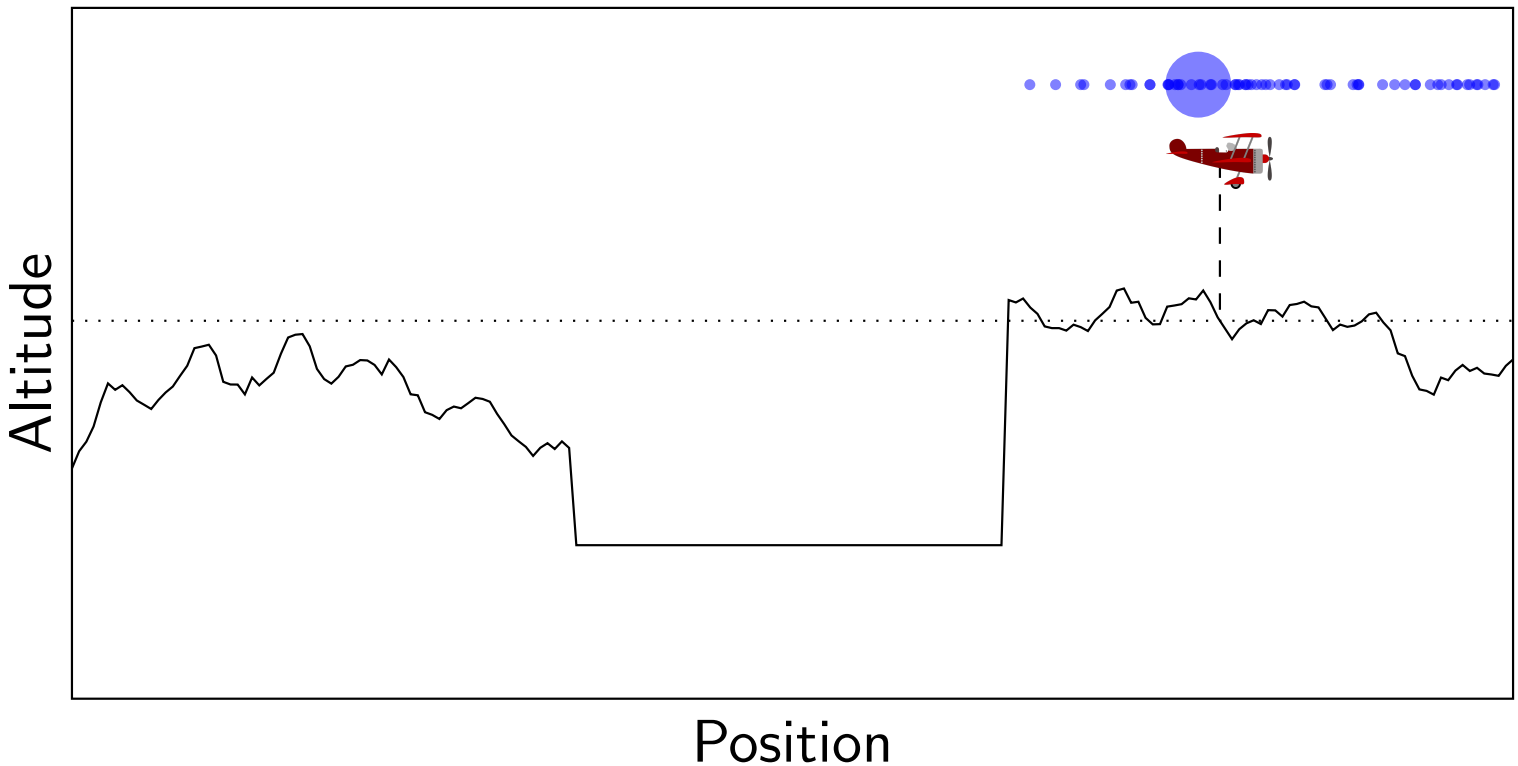

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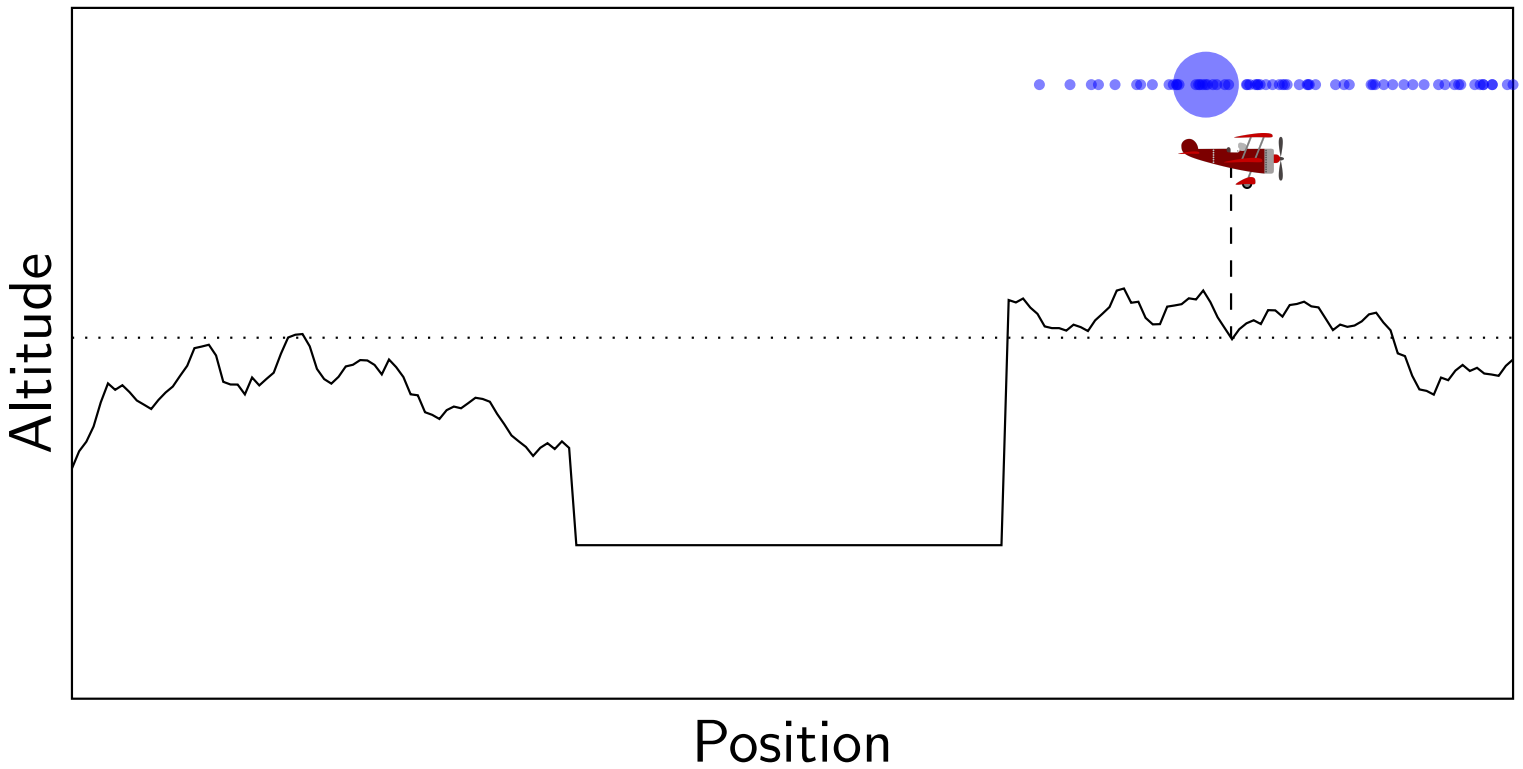

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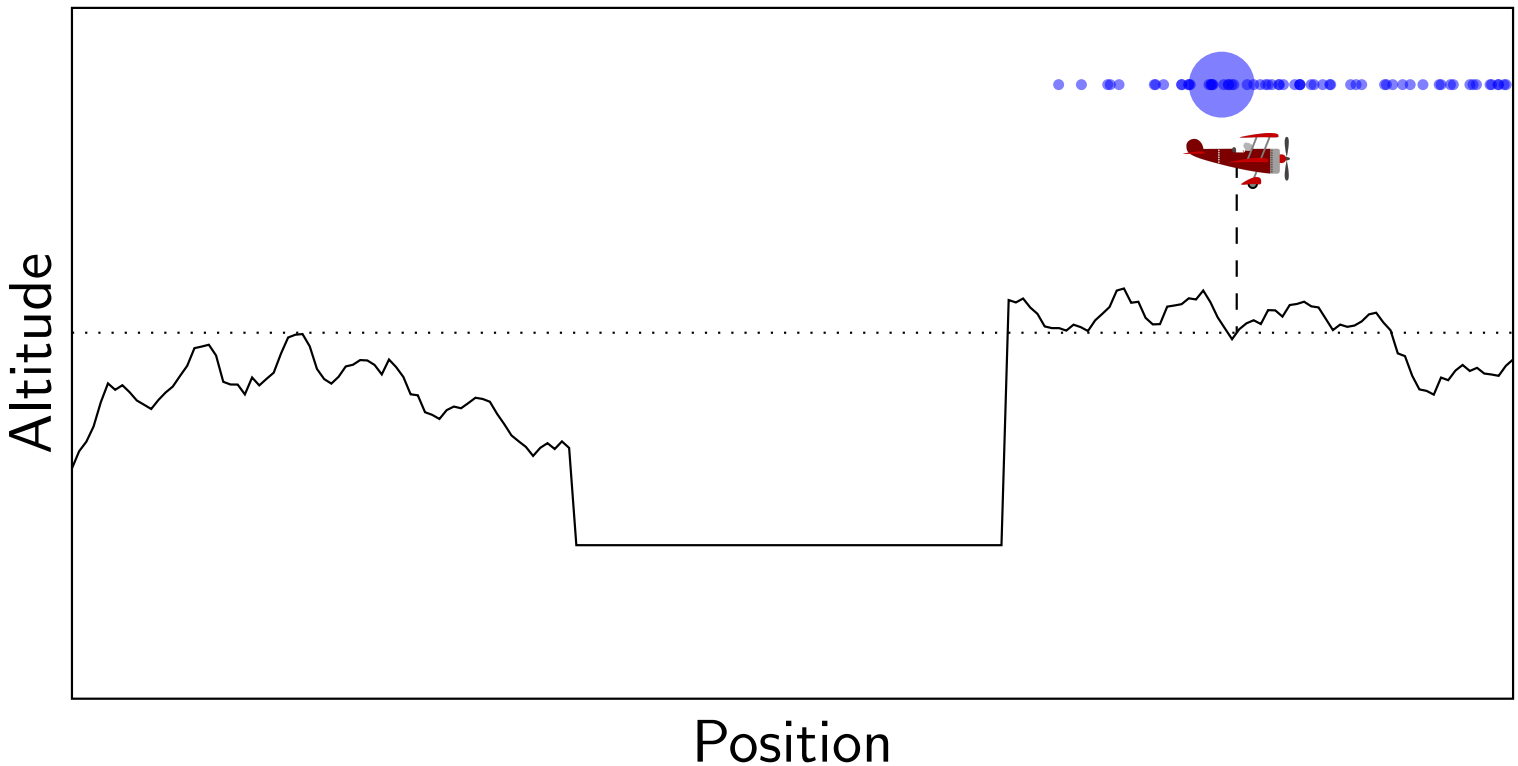

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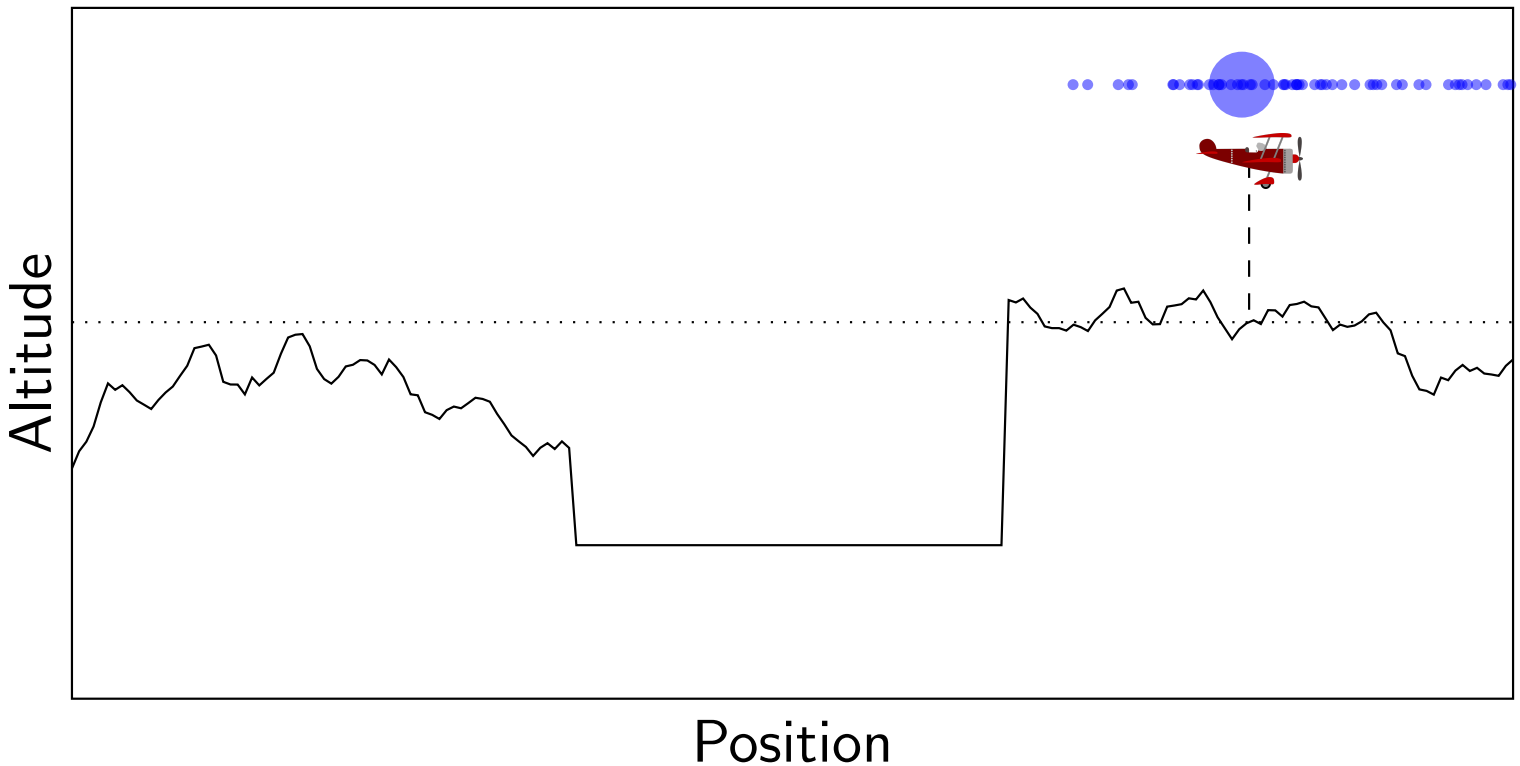

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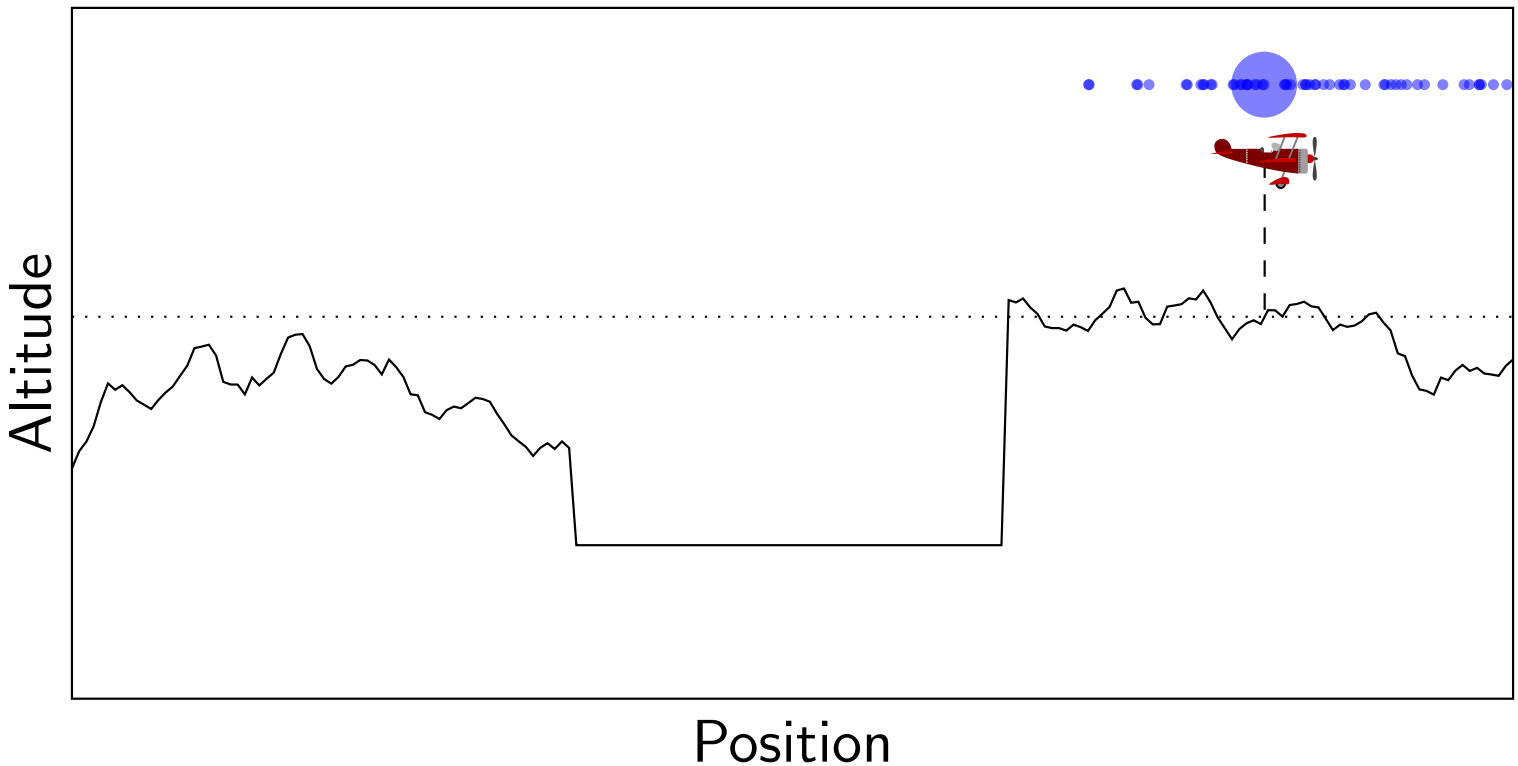

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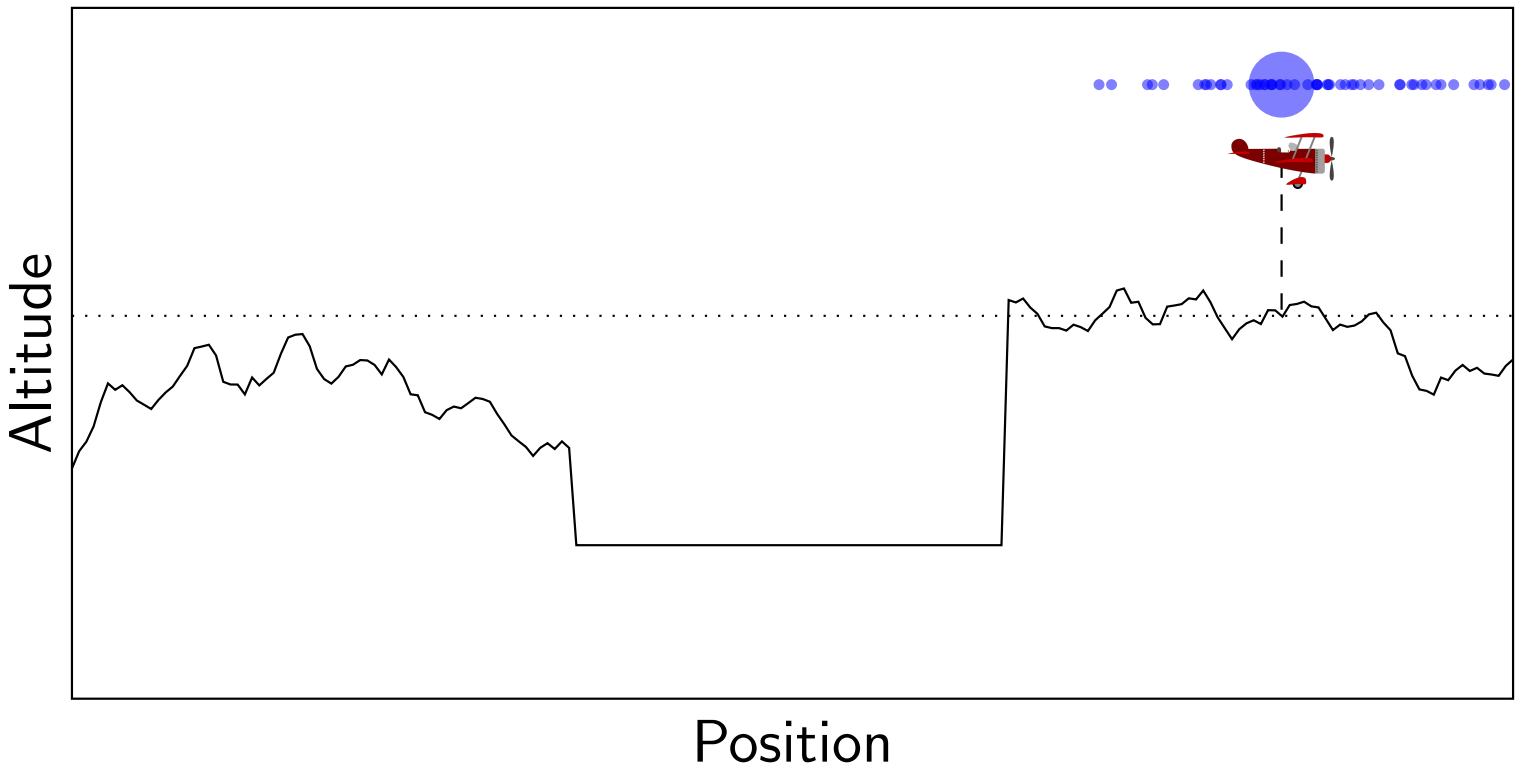

Importance sampling

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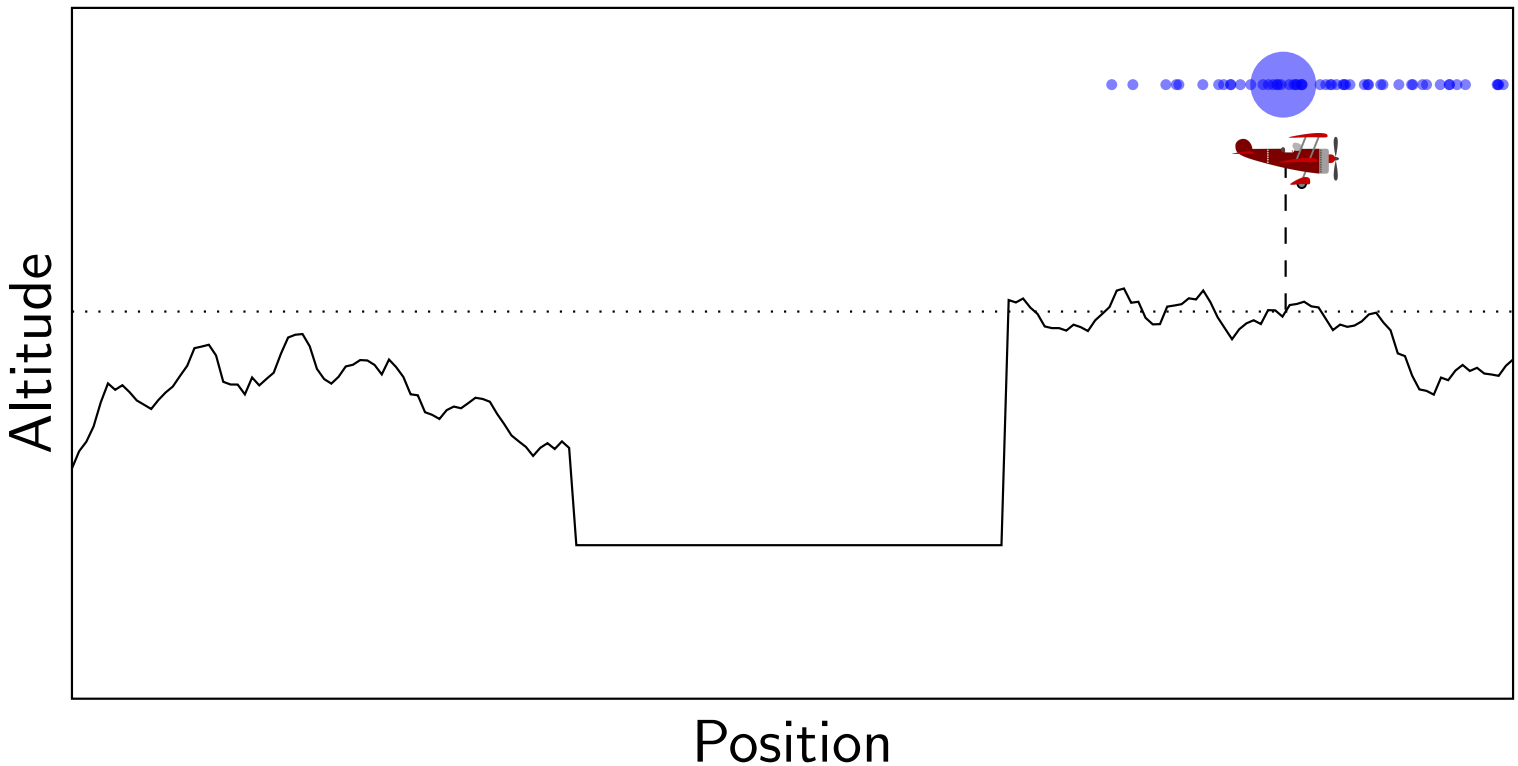

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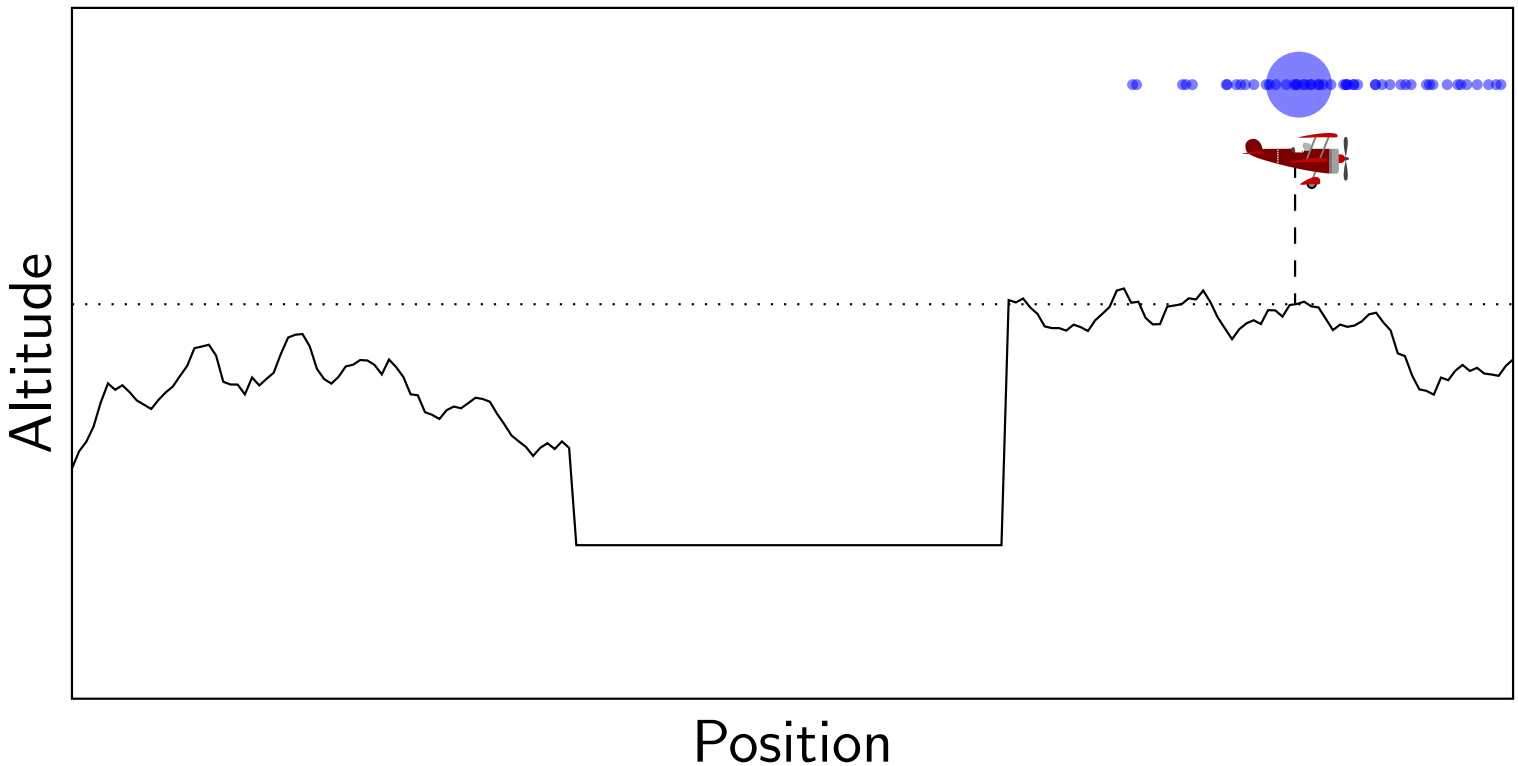

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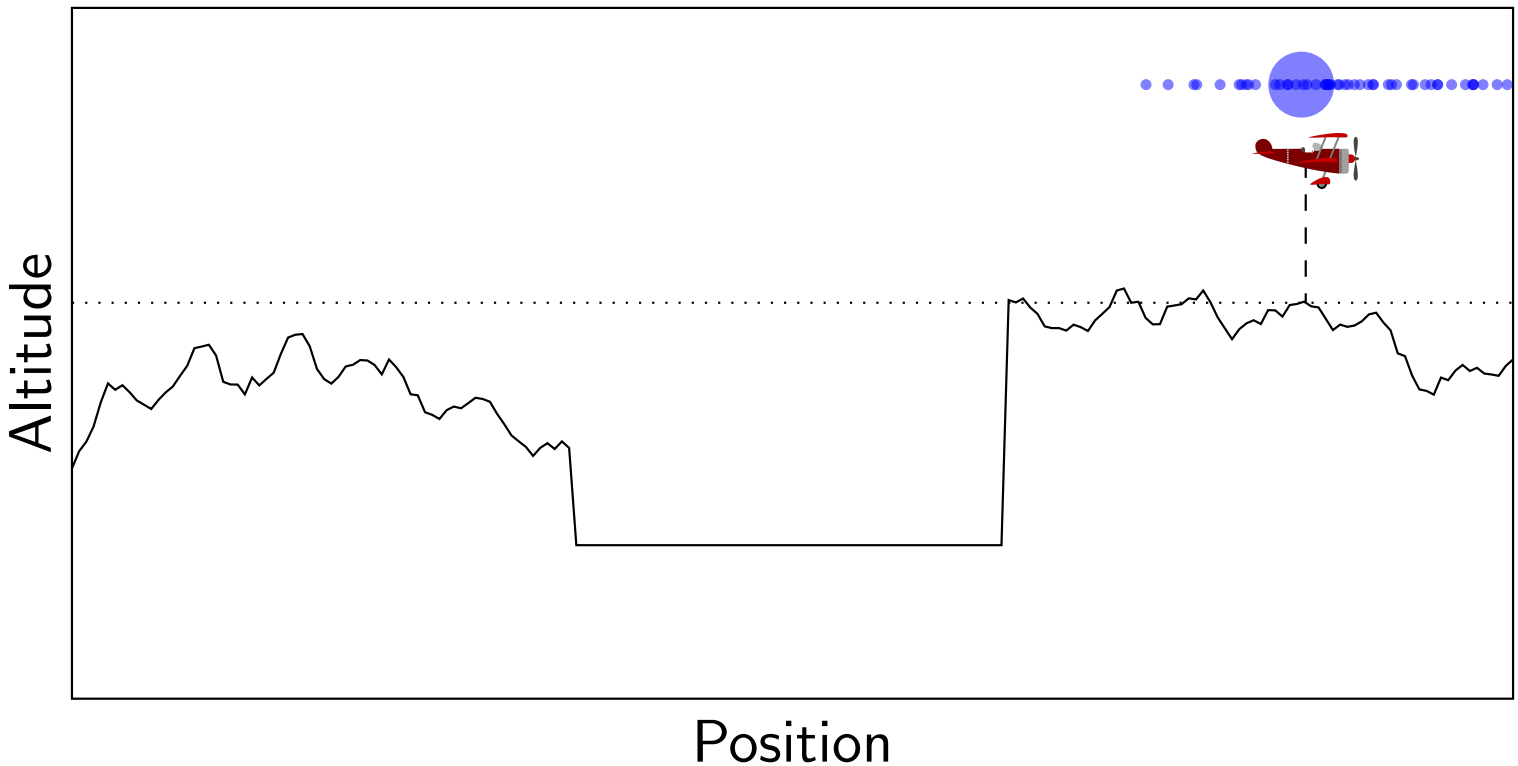

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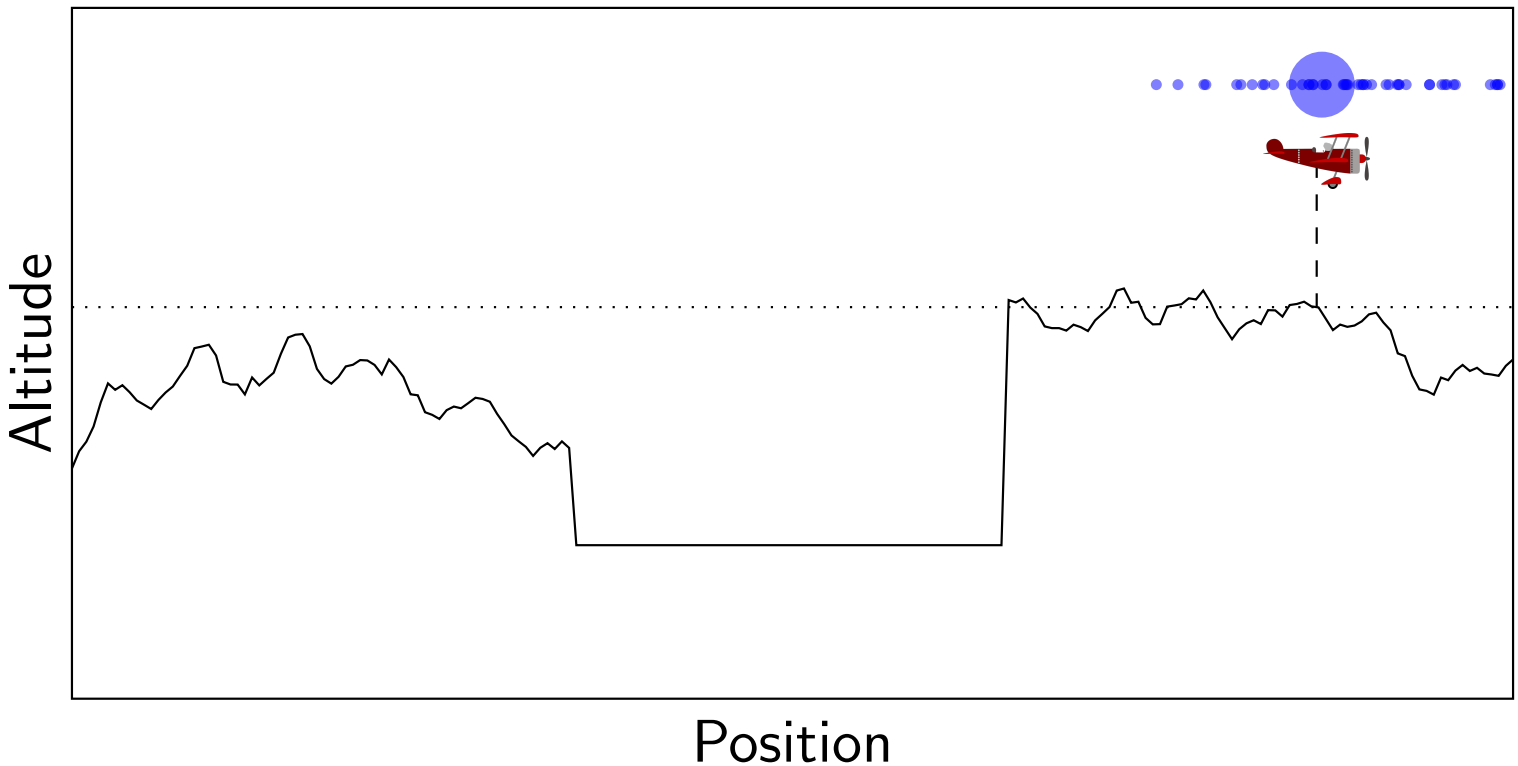

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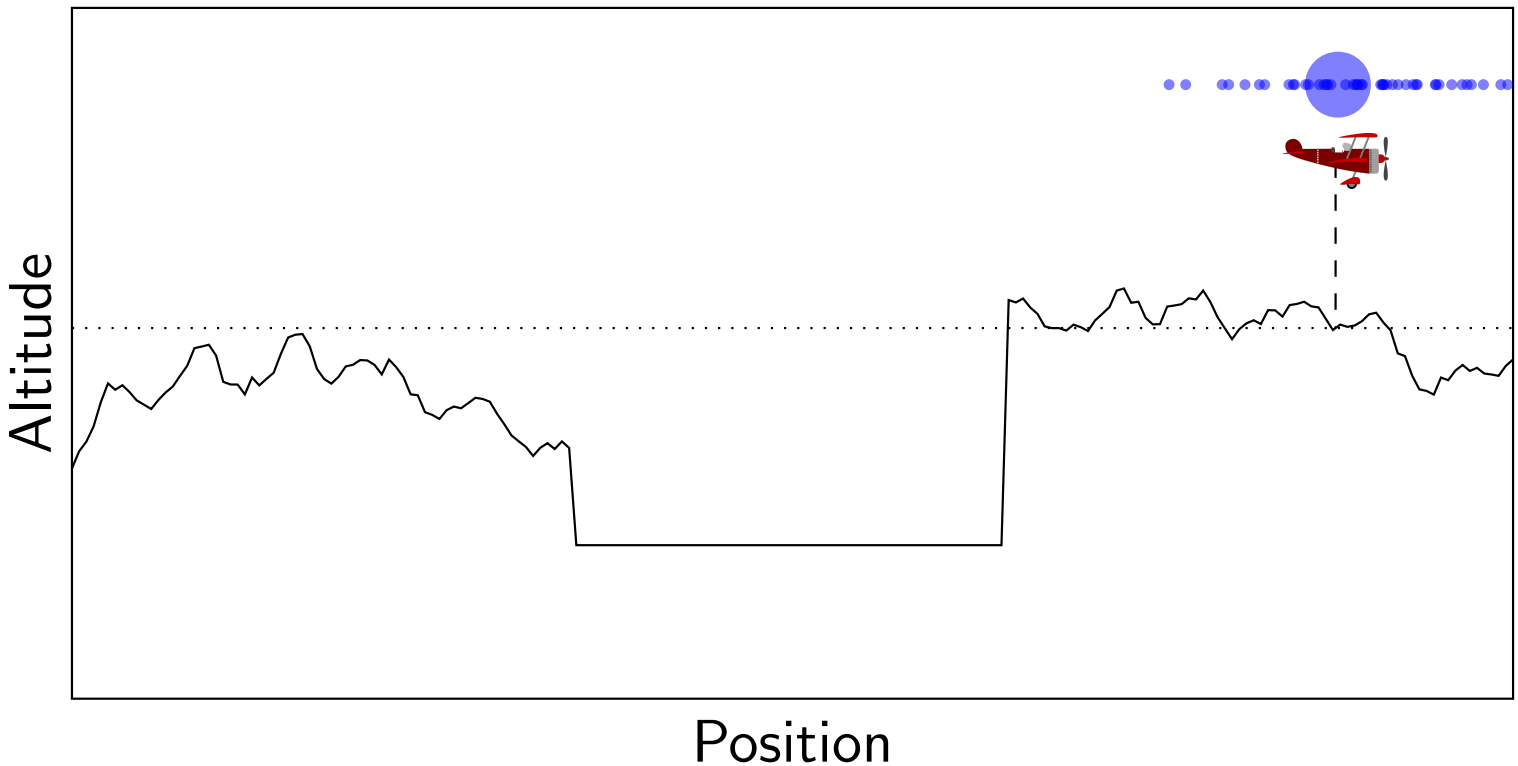

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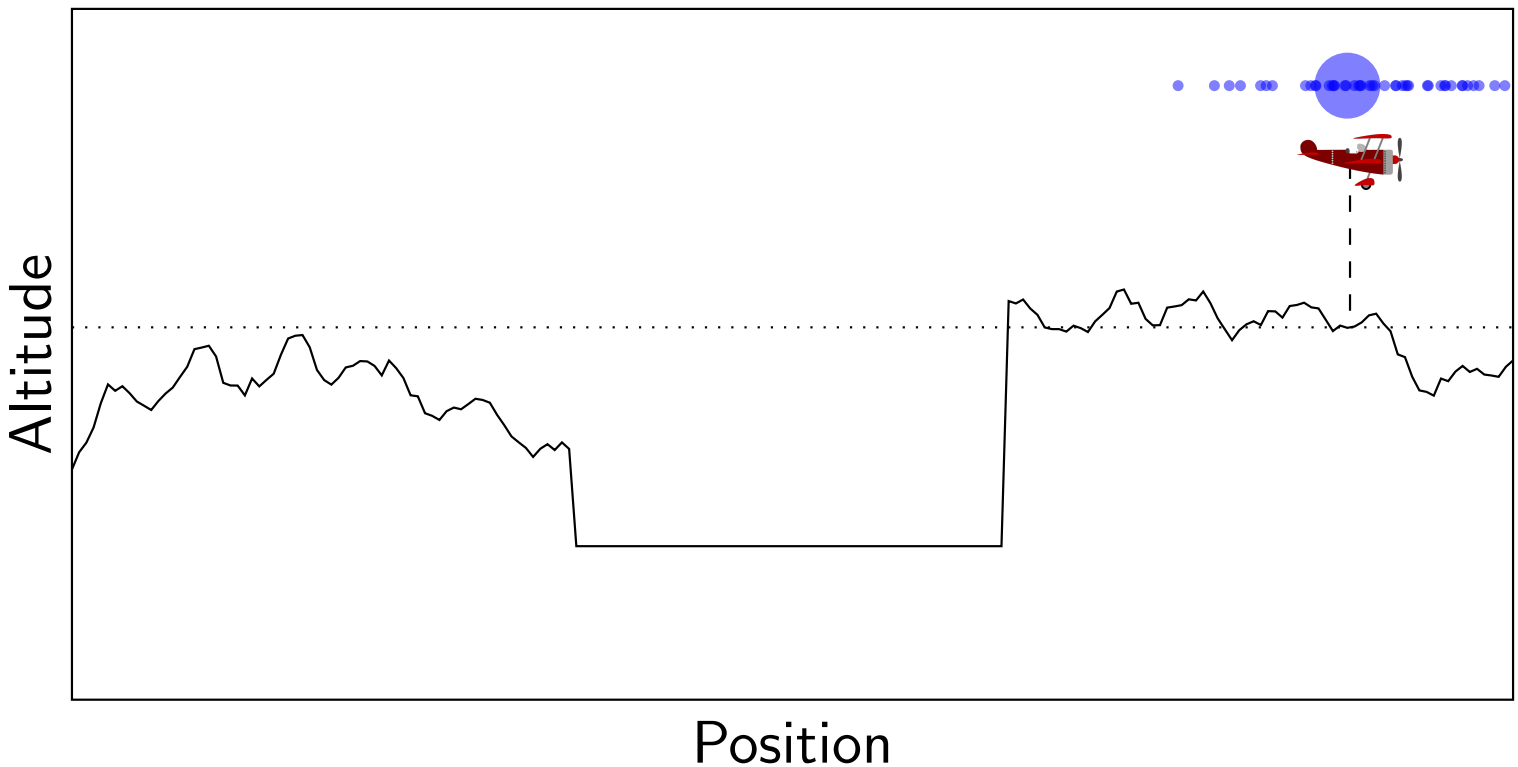

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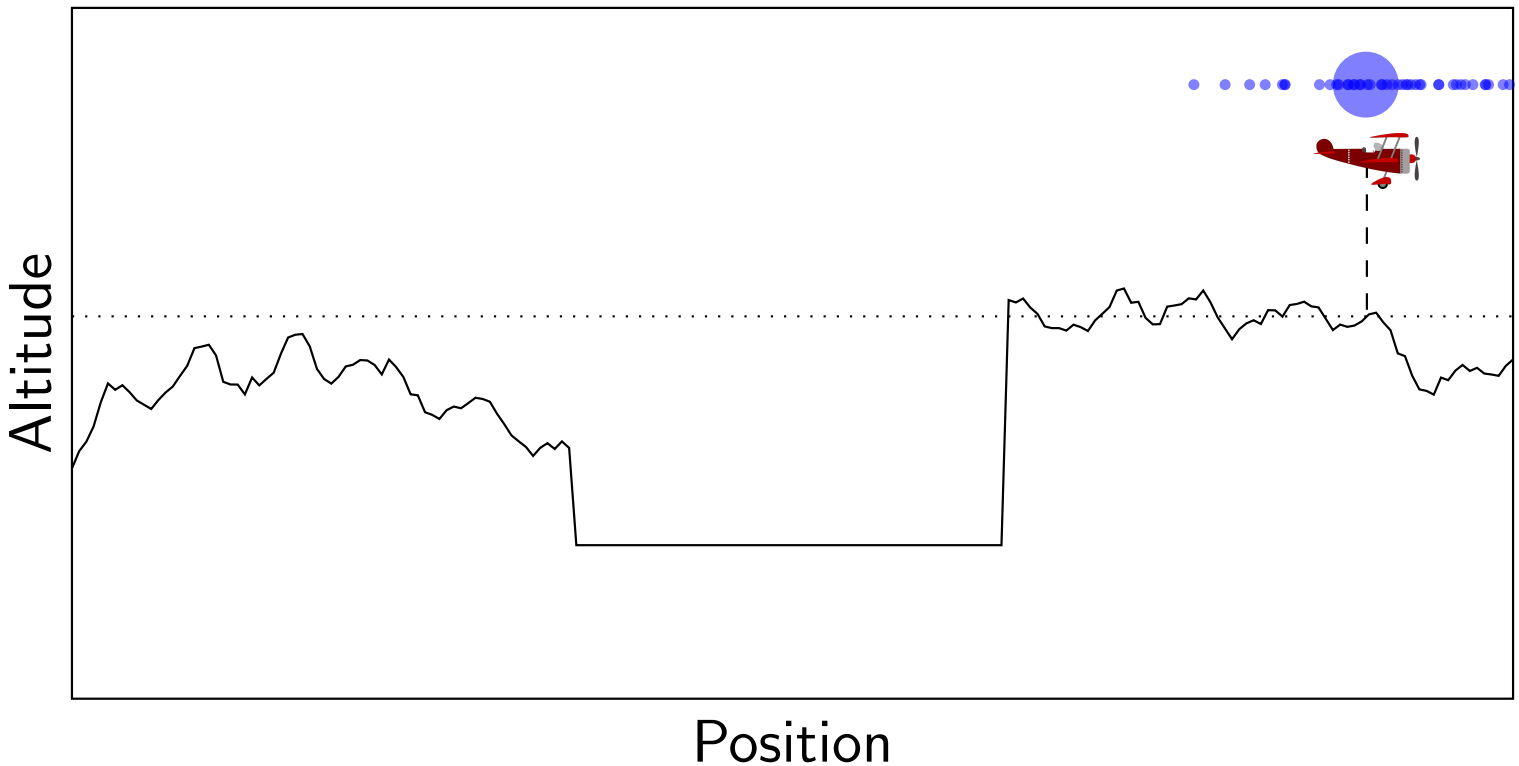

Importance sampling

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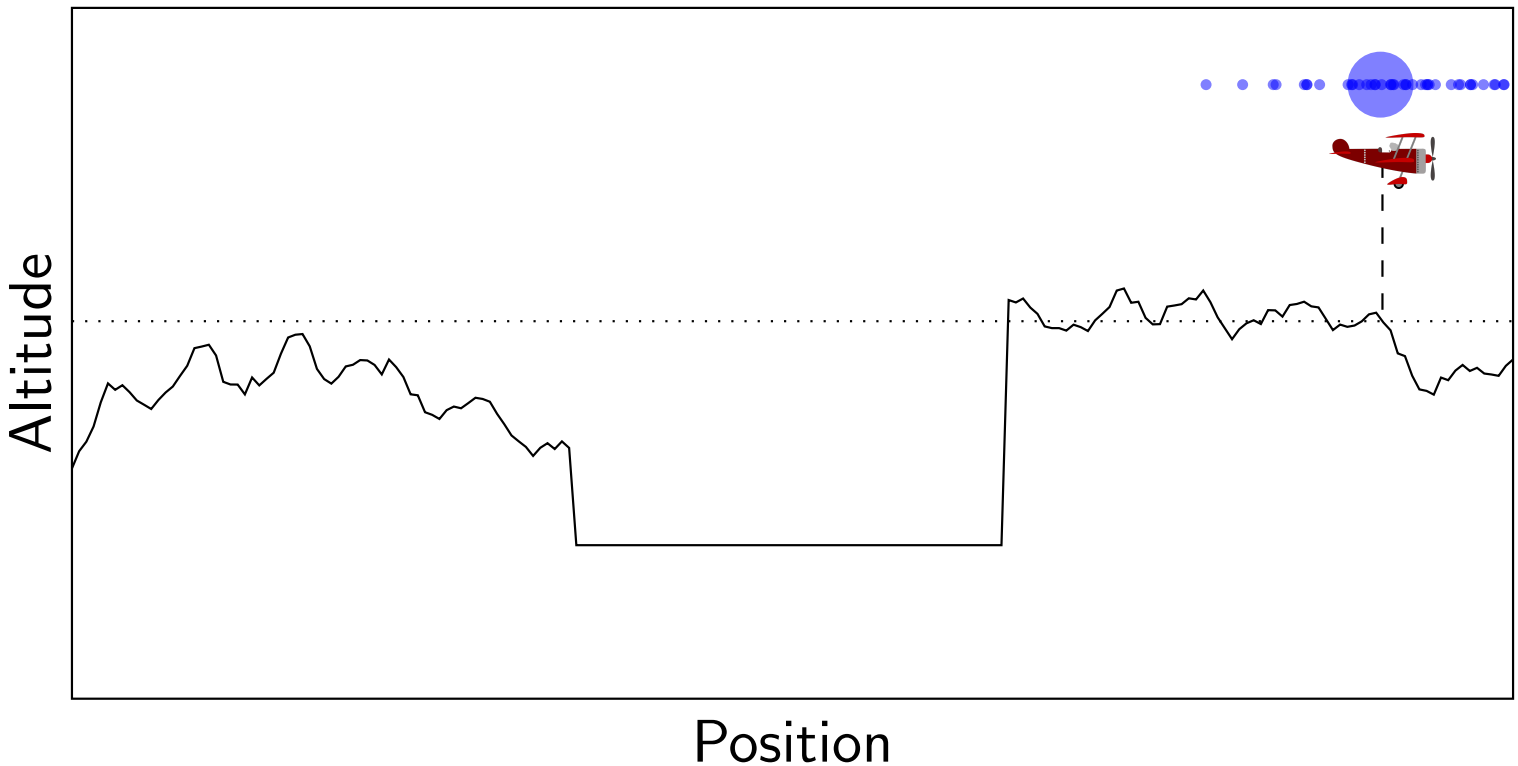

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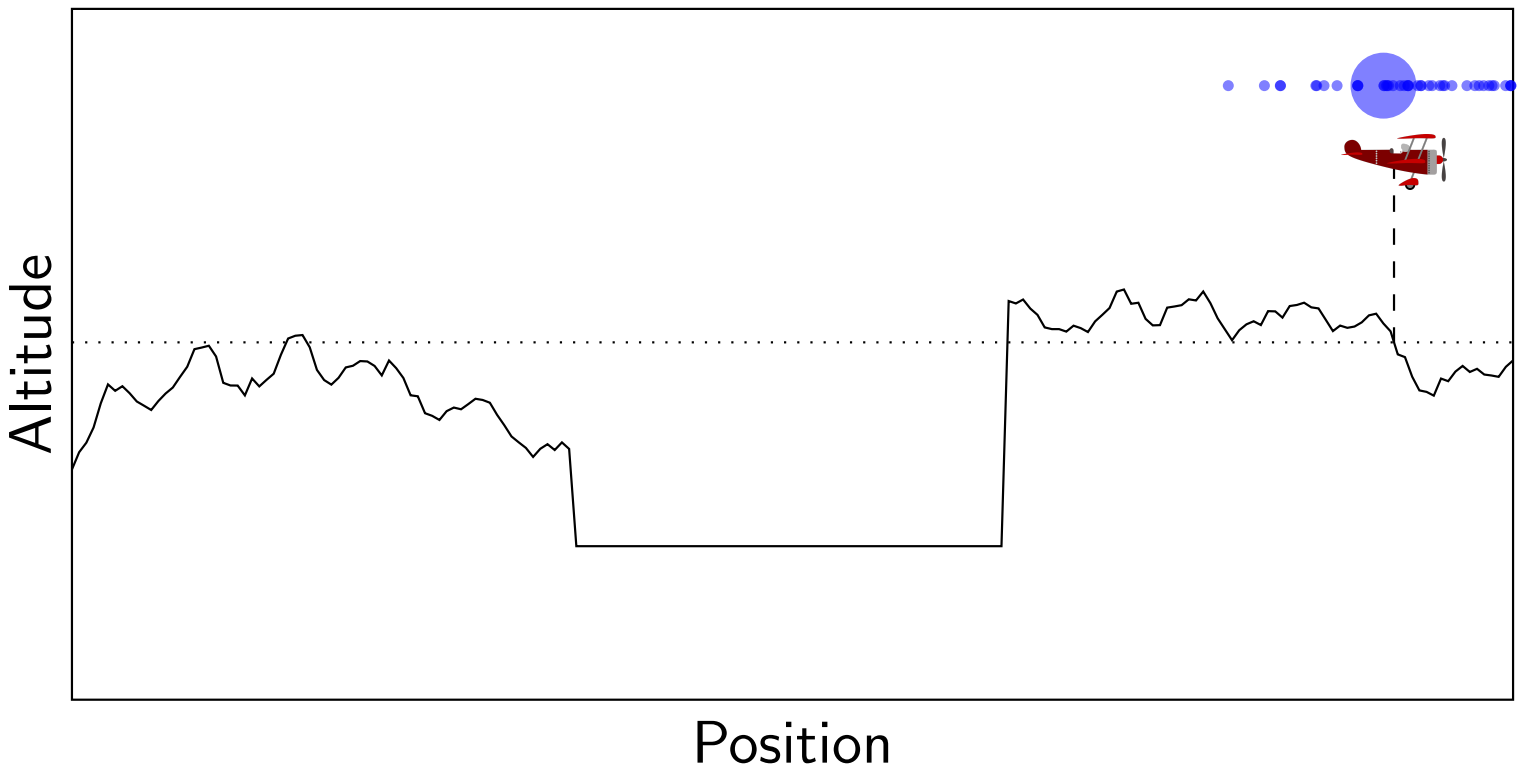

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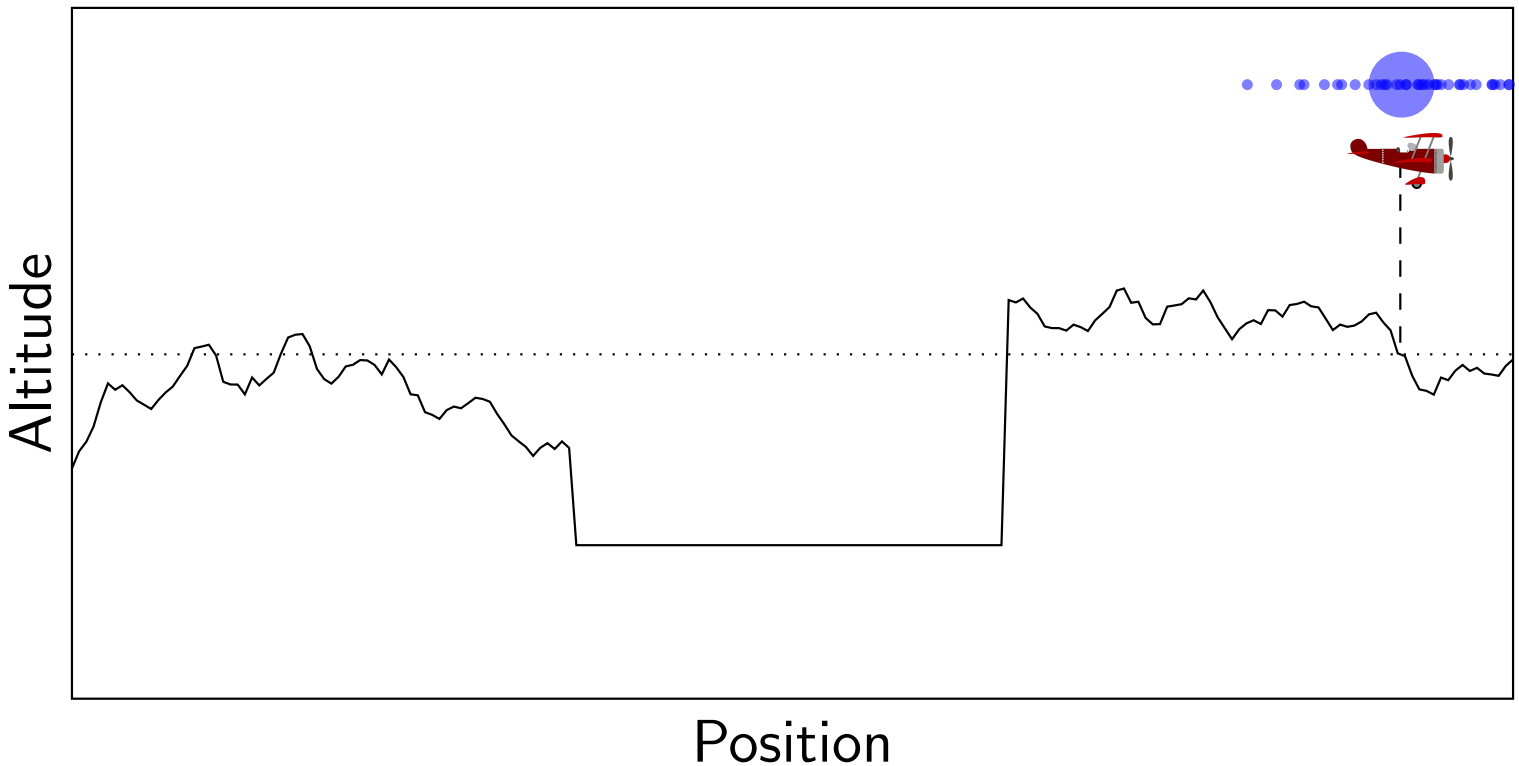

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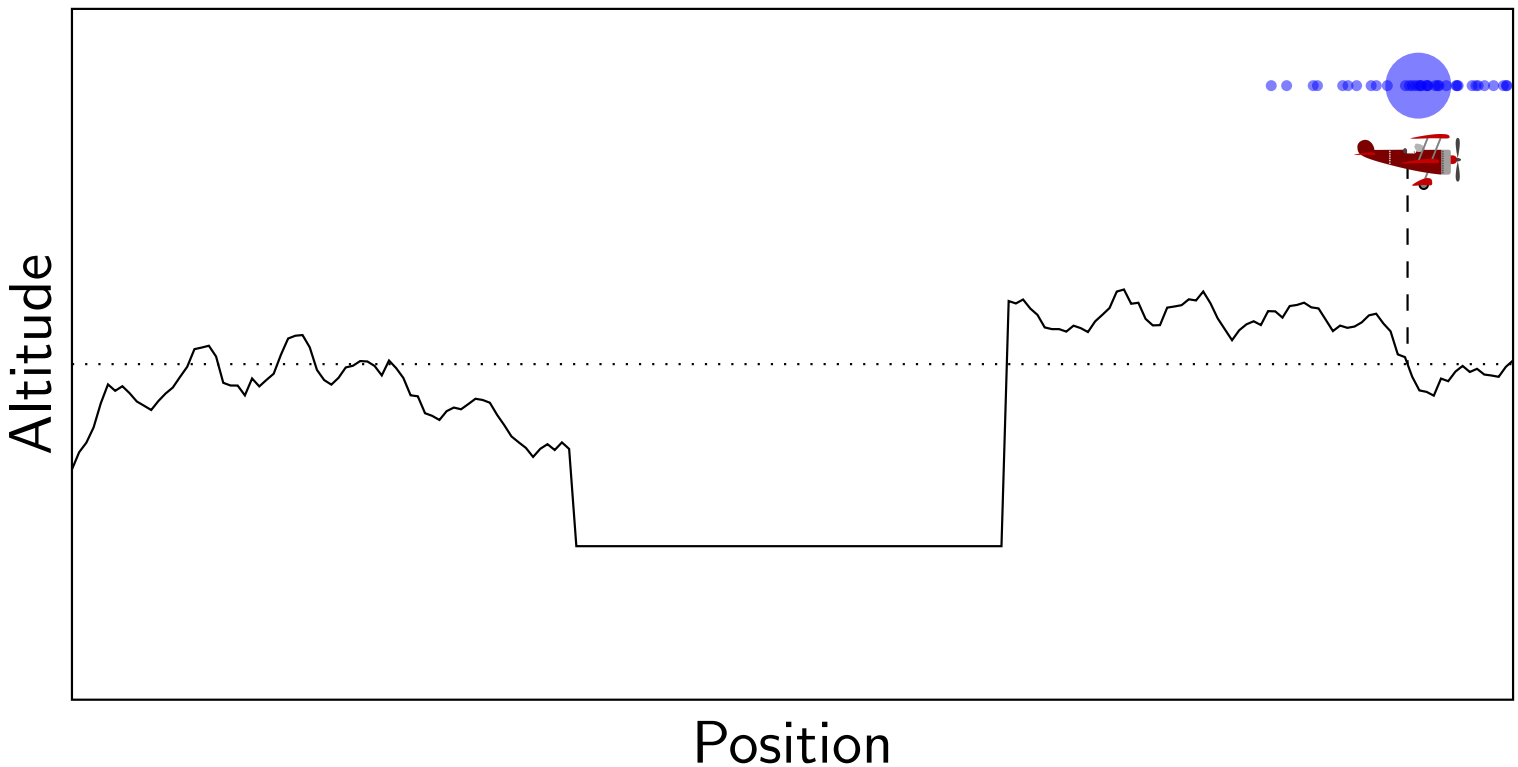

Importance sampling

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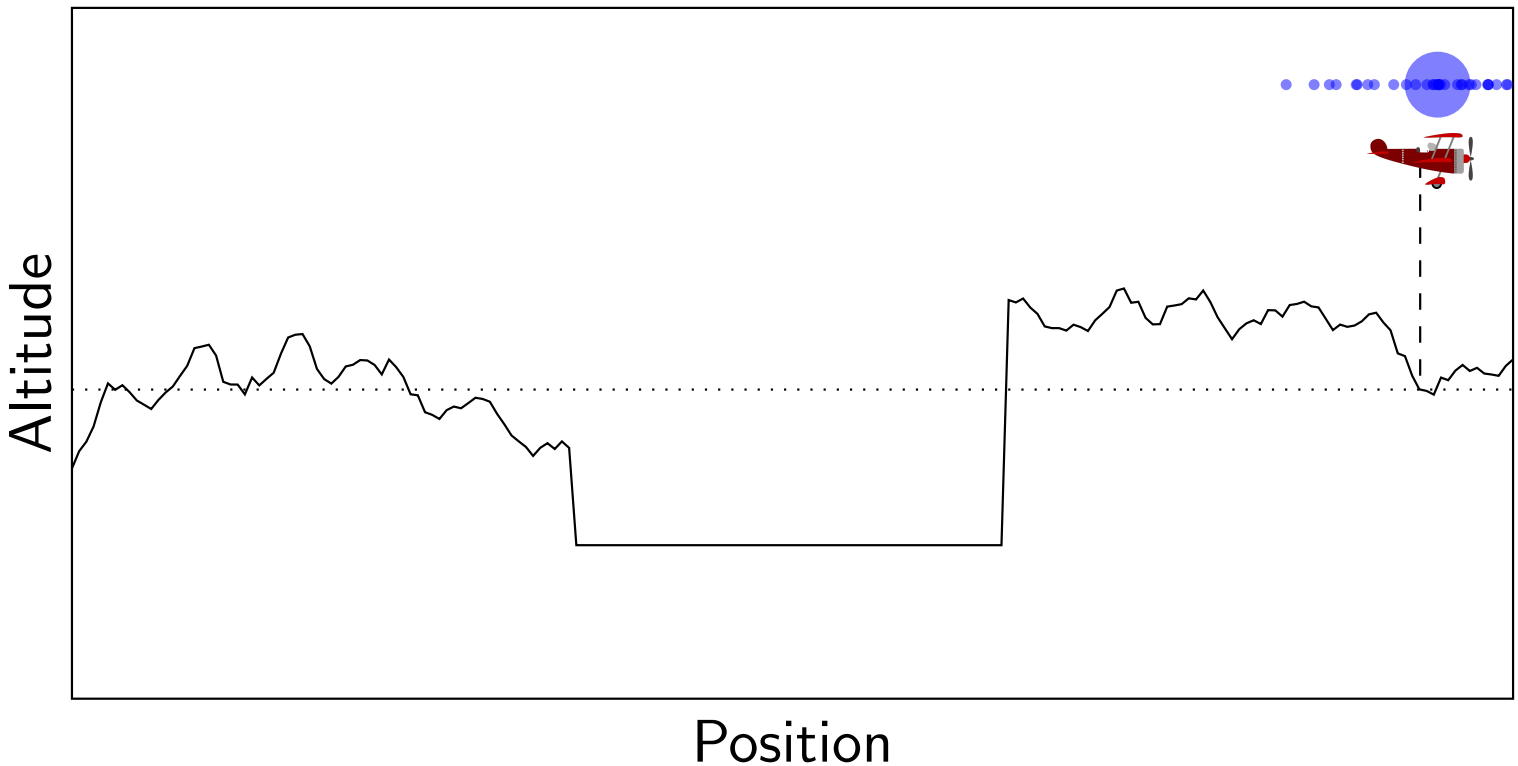
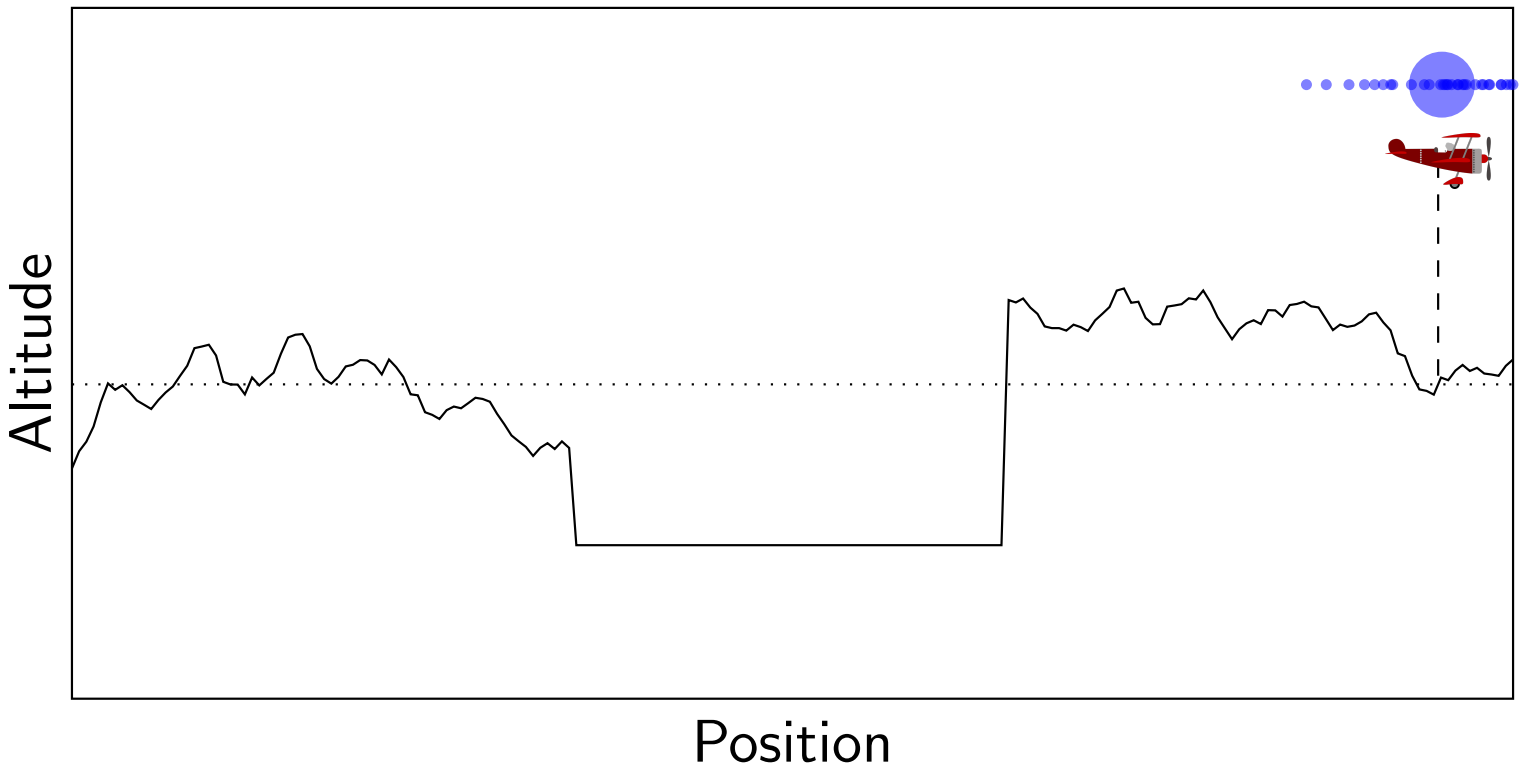


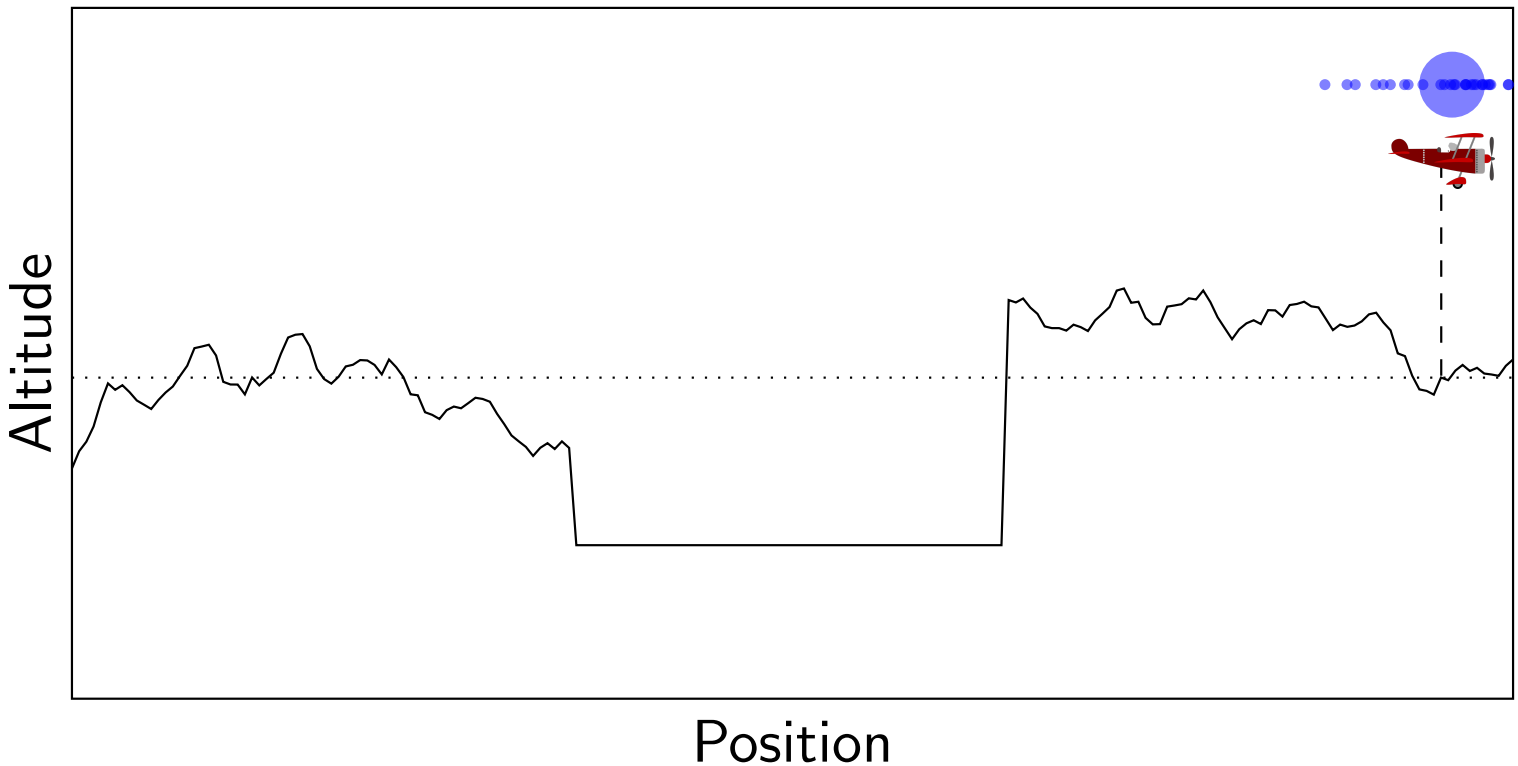
Importance sampling

Propagate, weigh



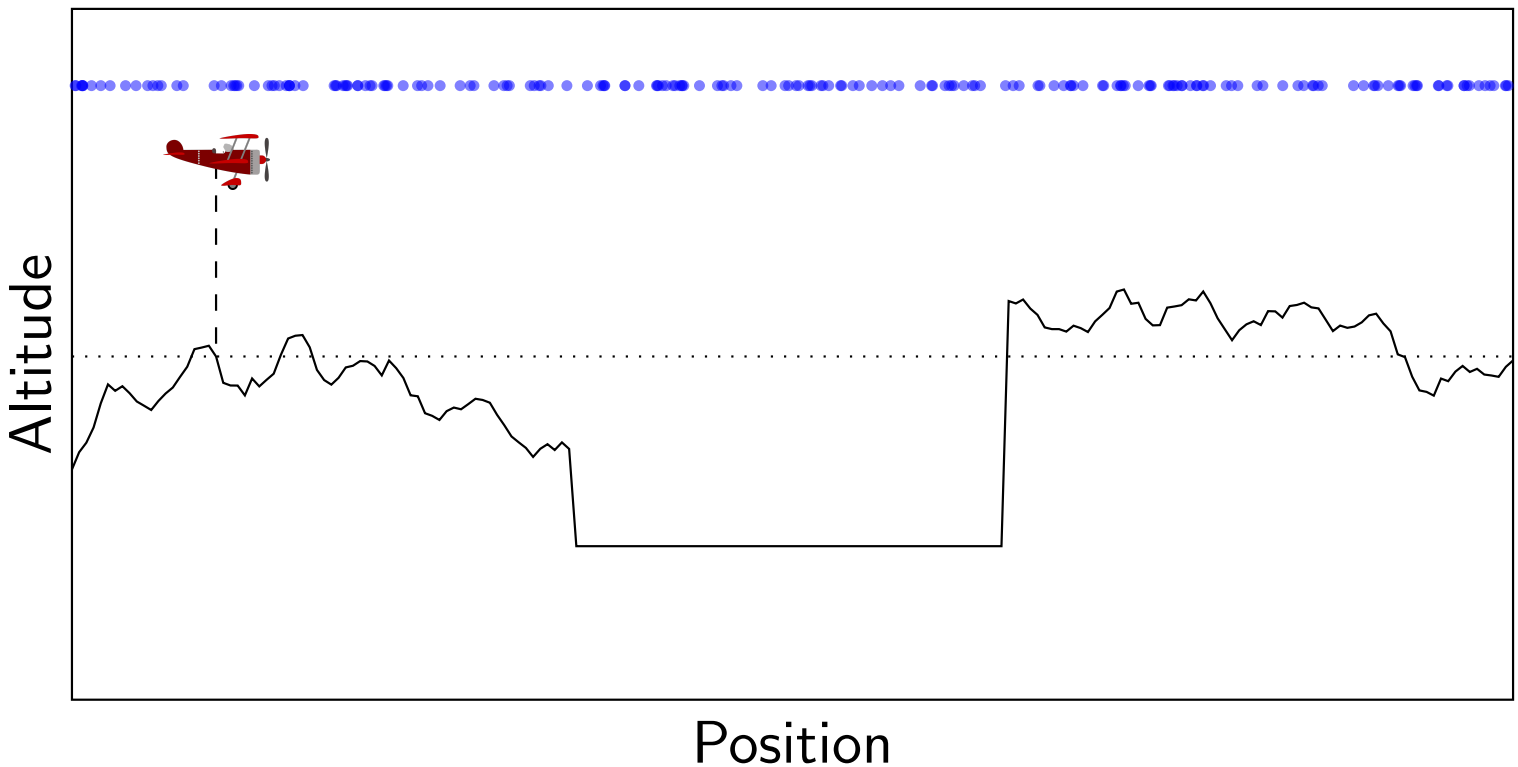
Importance sampling

Propagate, weigh



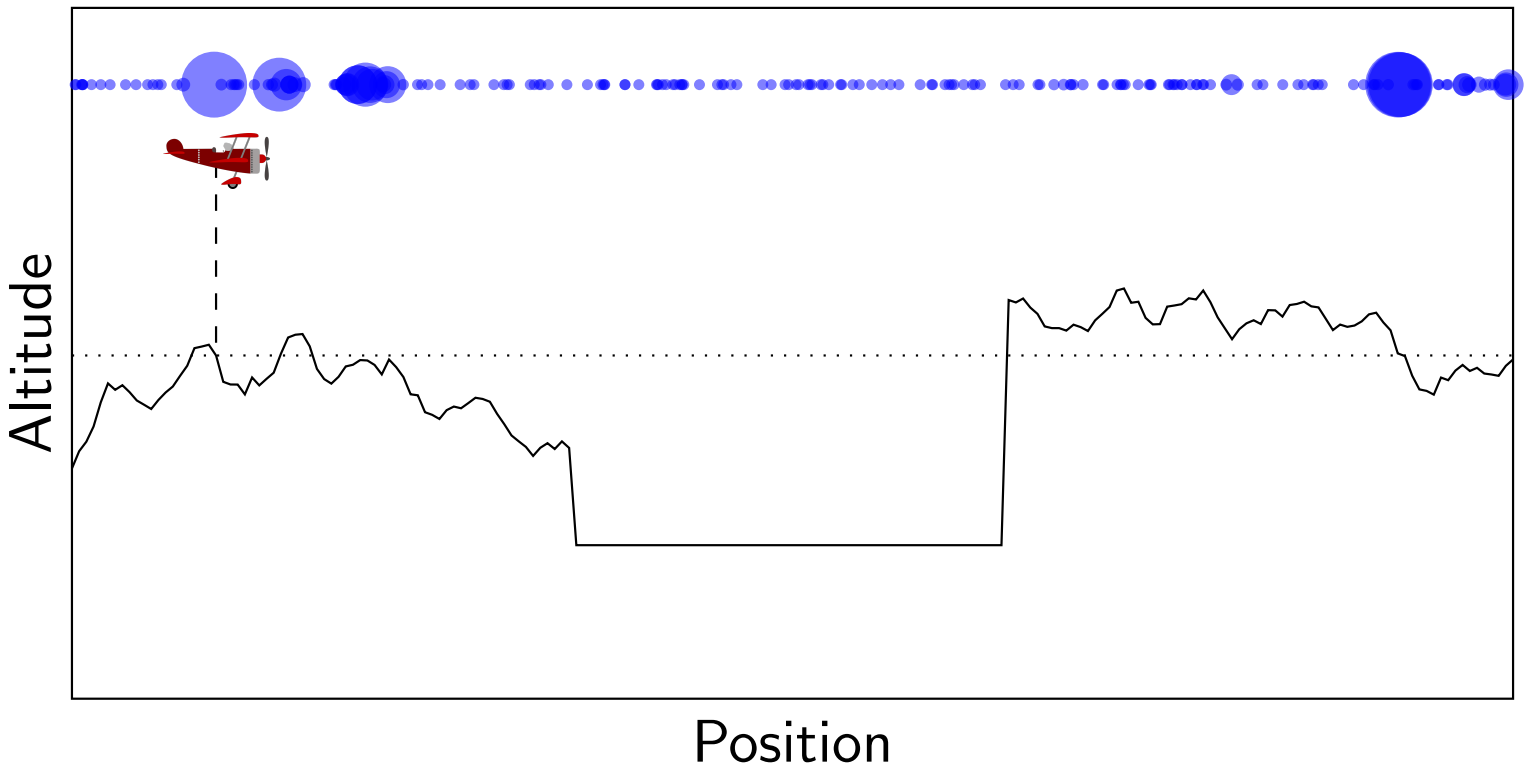
Sequential Monte Carlo inference

Initialize 200 samples from X_0

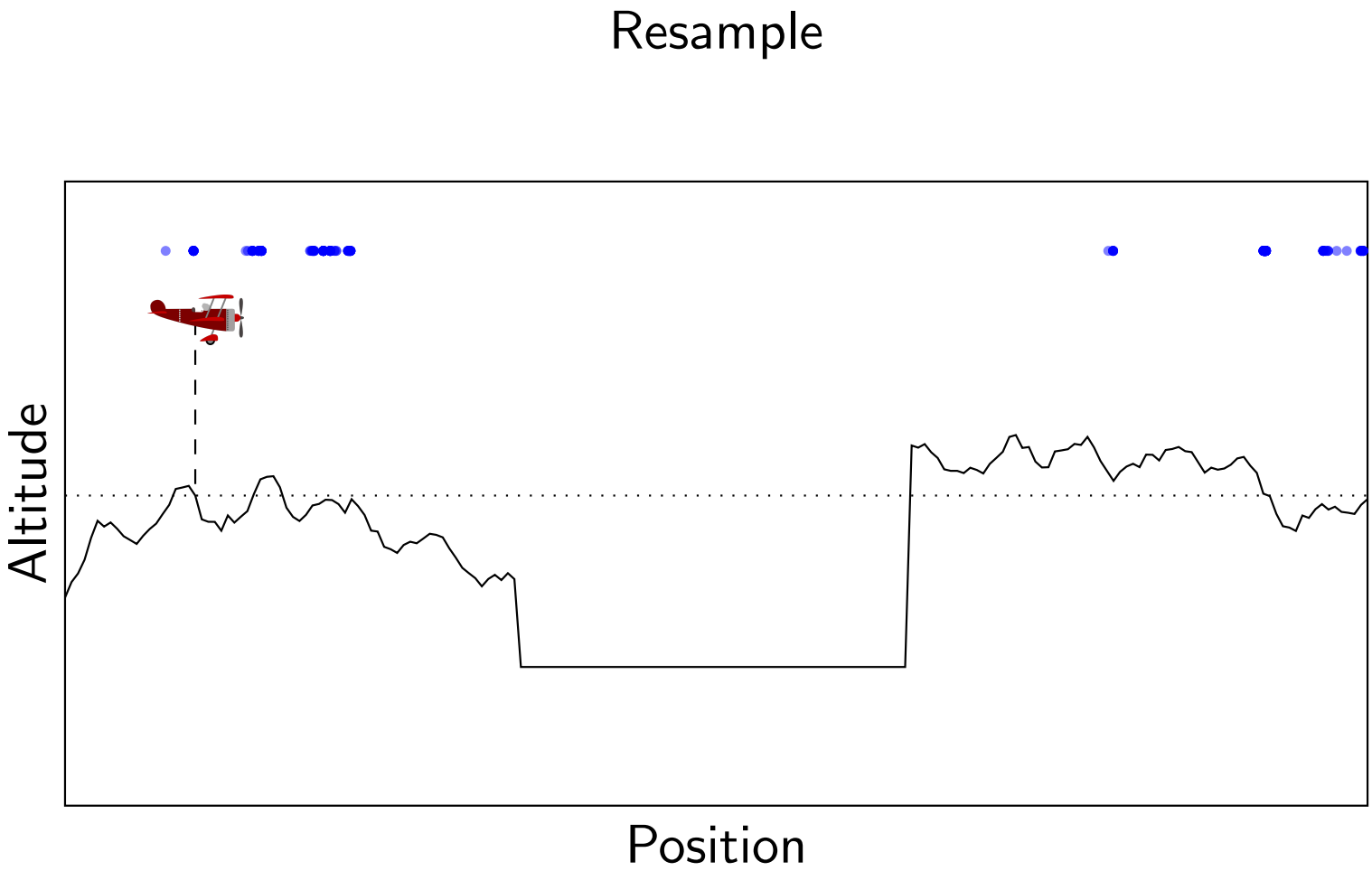


Sequential Monte Carlo inference

Weigh samples using observation model

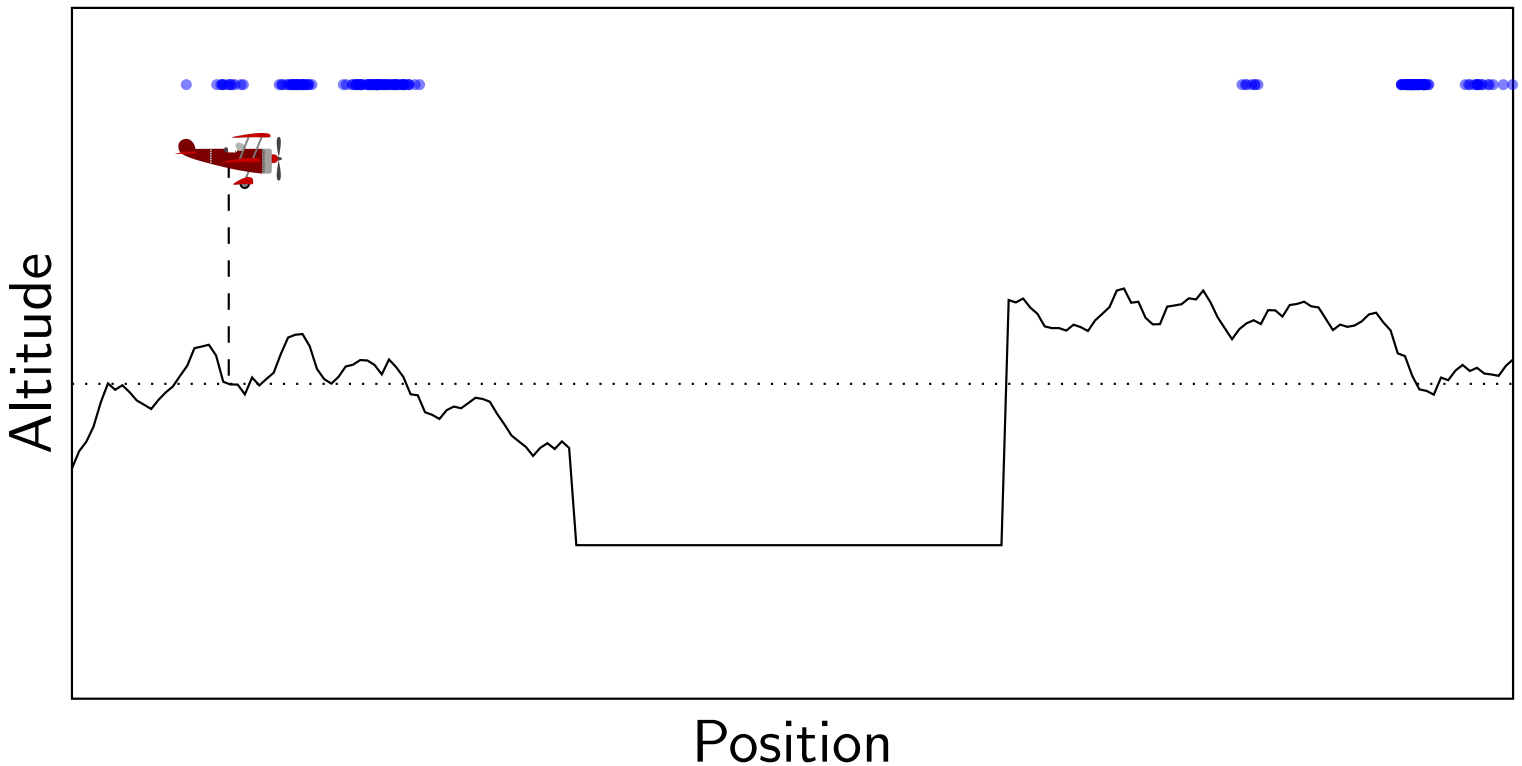


Sequential Monte Carlo inference



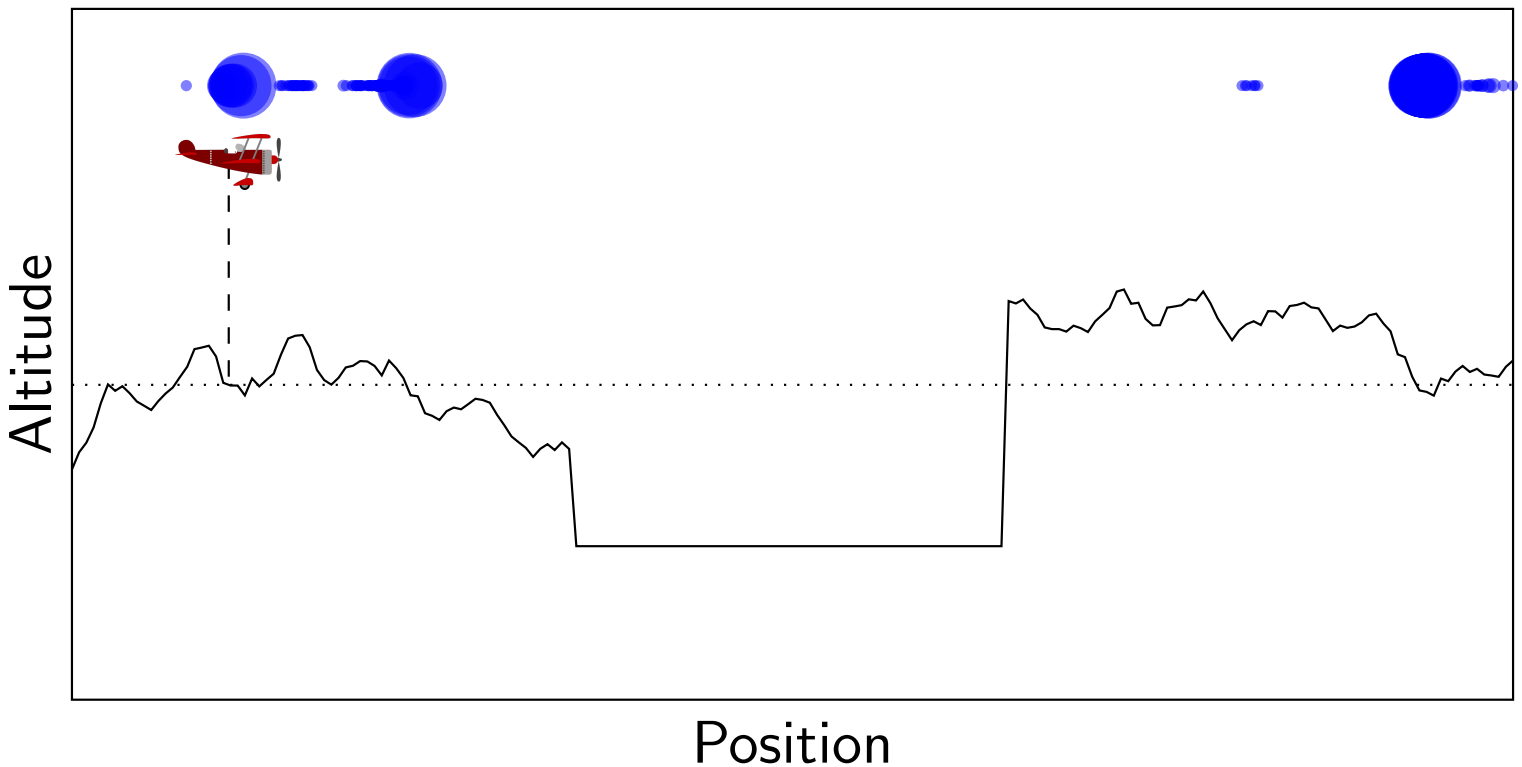
Sequential Monte Carlo inference

Propagate samples using transition model

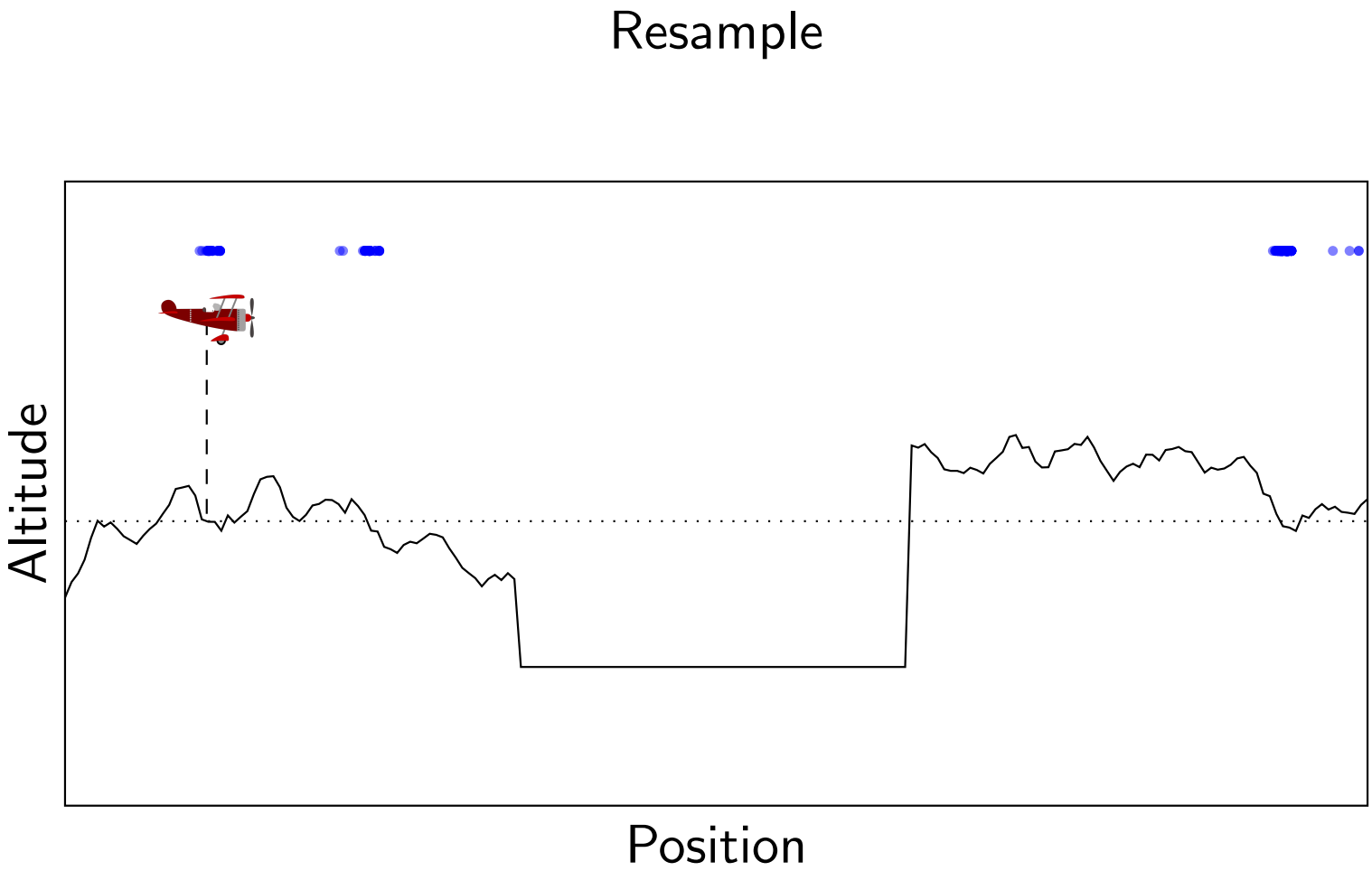


Sequential Monte Carlo inference

Weigh samples using observation model

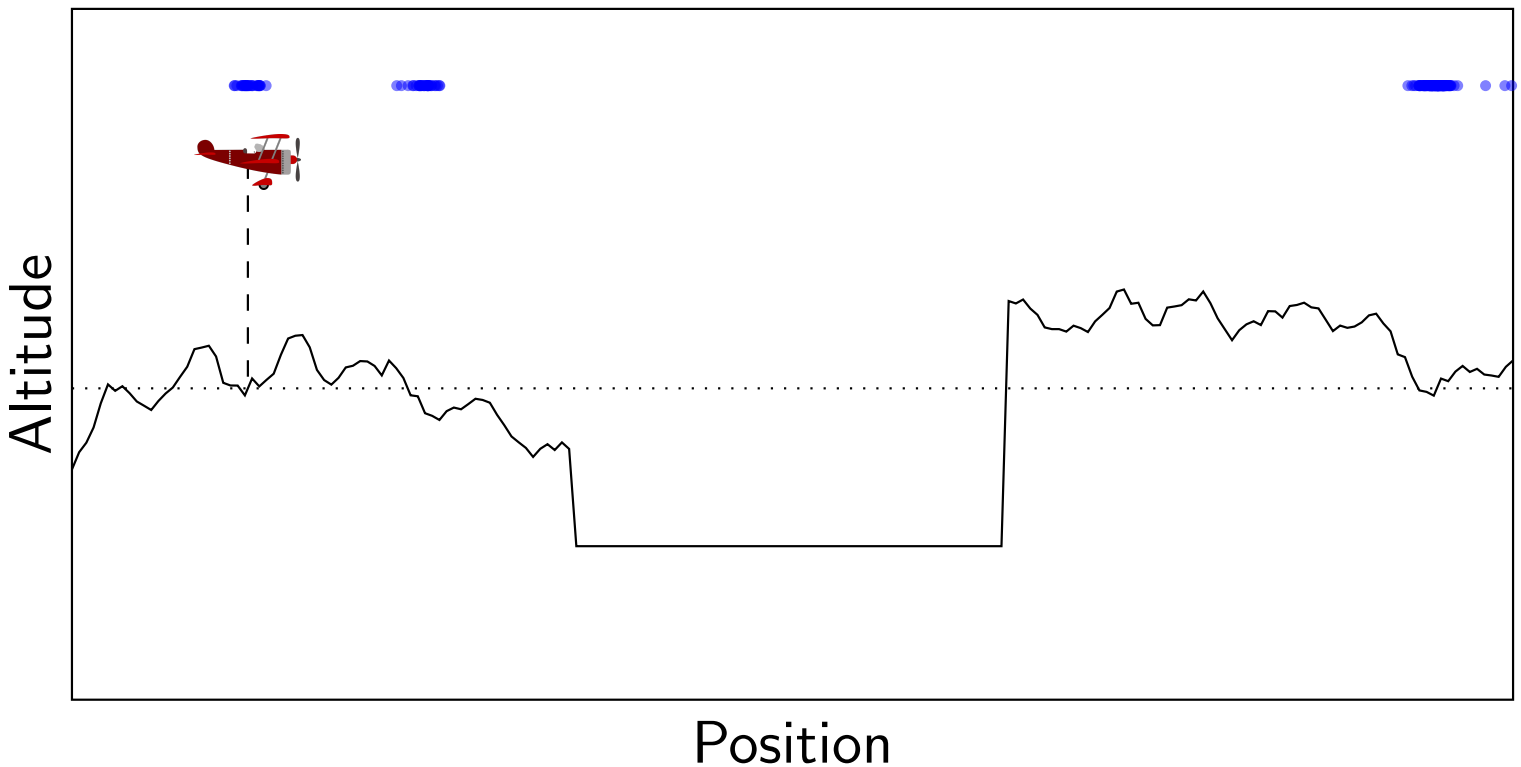


Sequential Monte Carlo inference



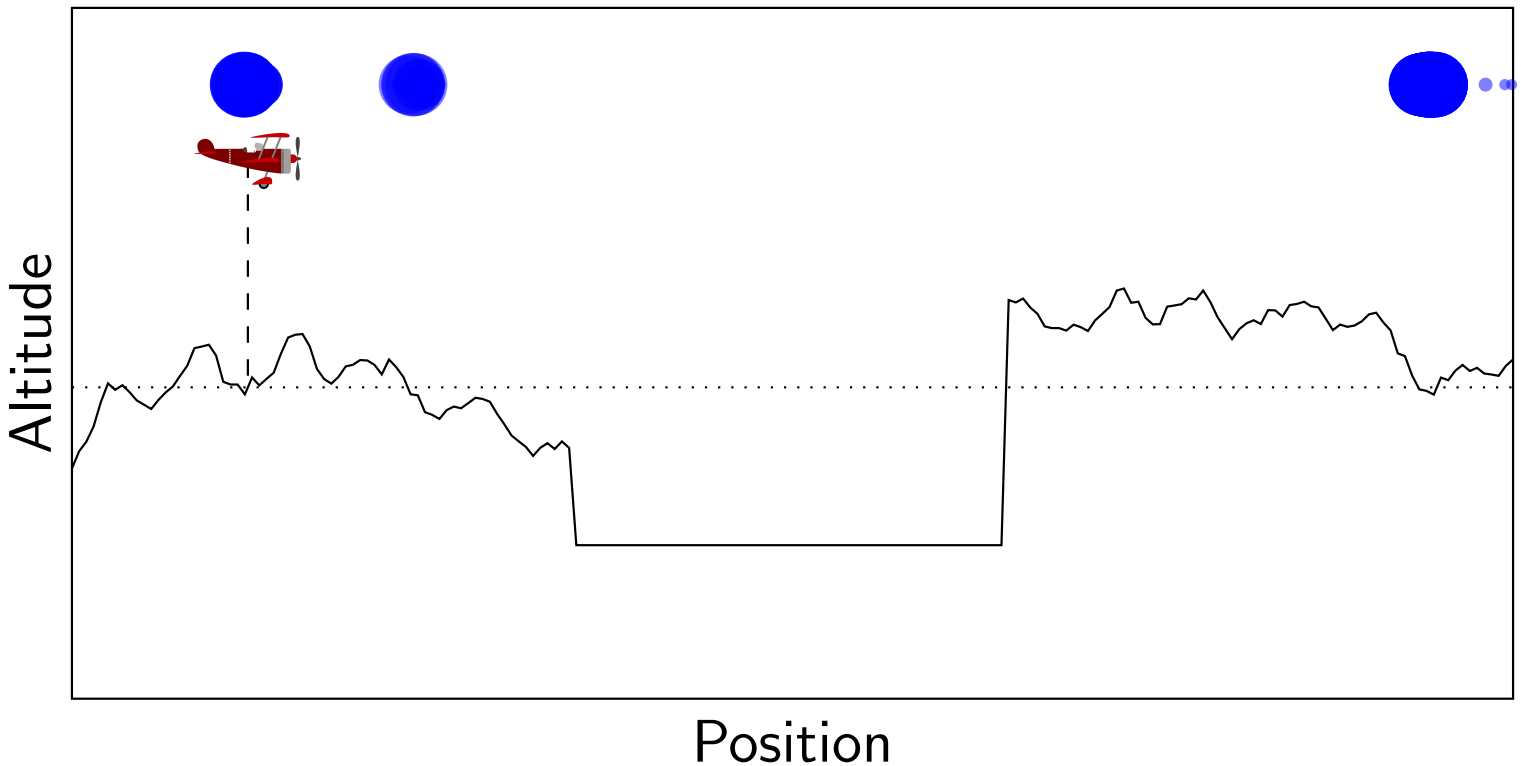
Sequential Monte Carlo inference

Propagate samples using transition model

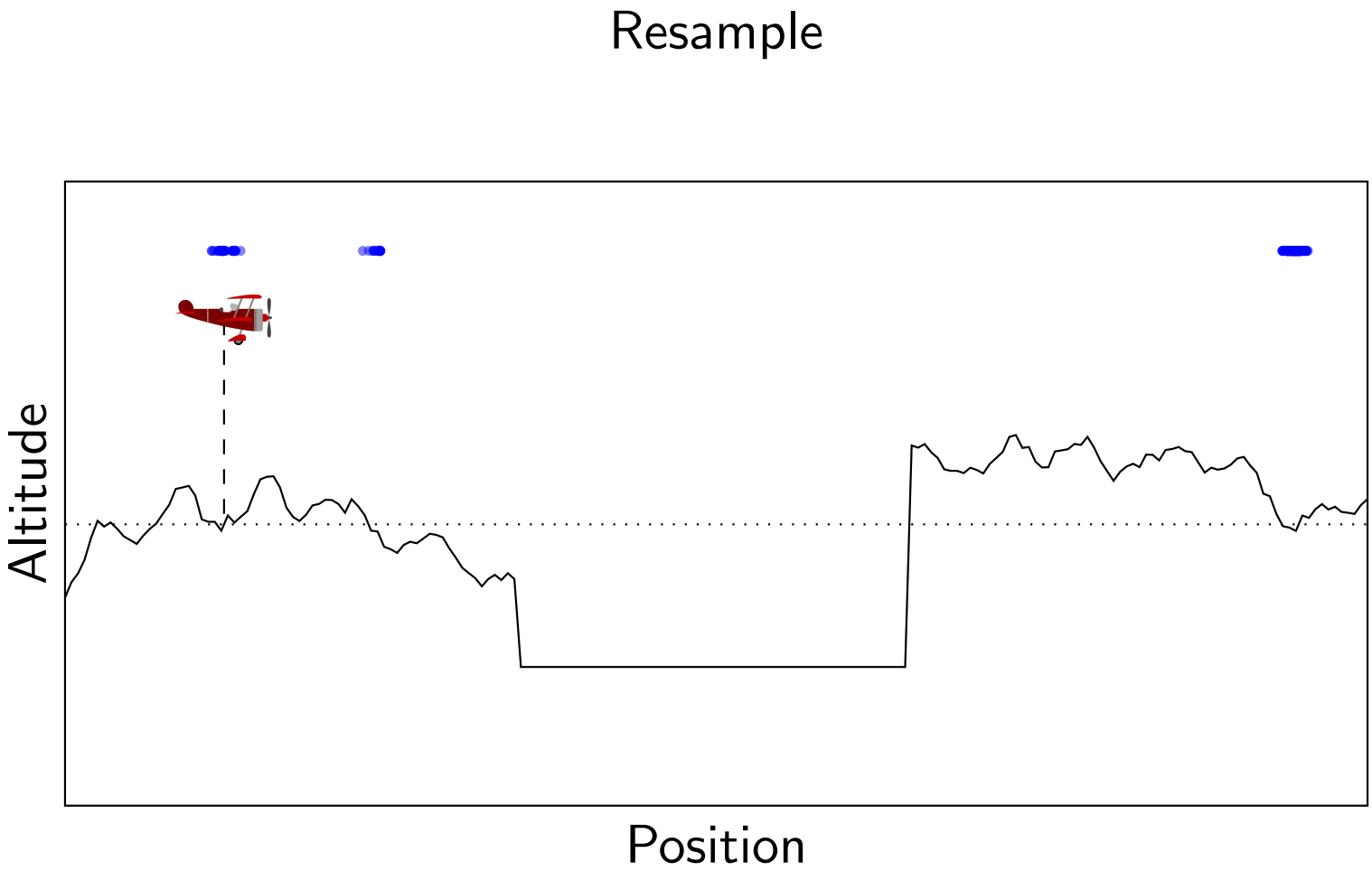


Sequential Monte Carlo inference

Weigh samples using observation model

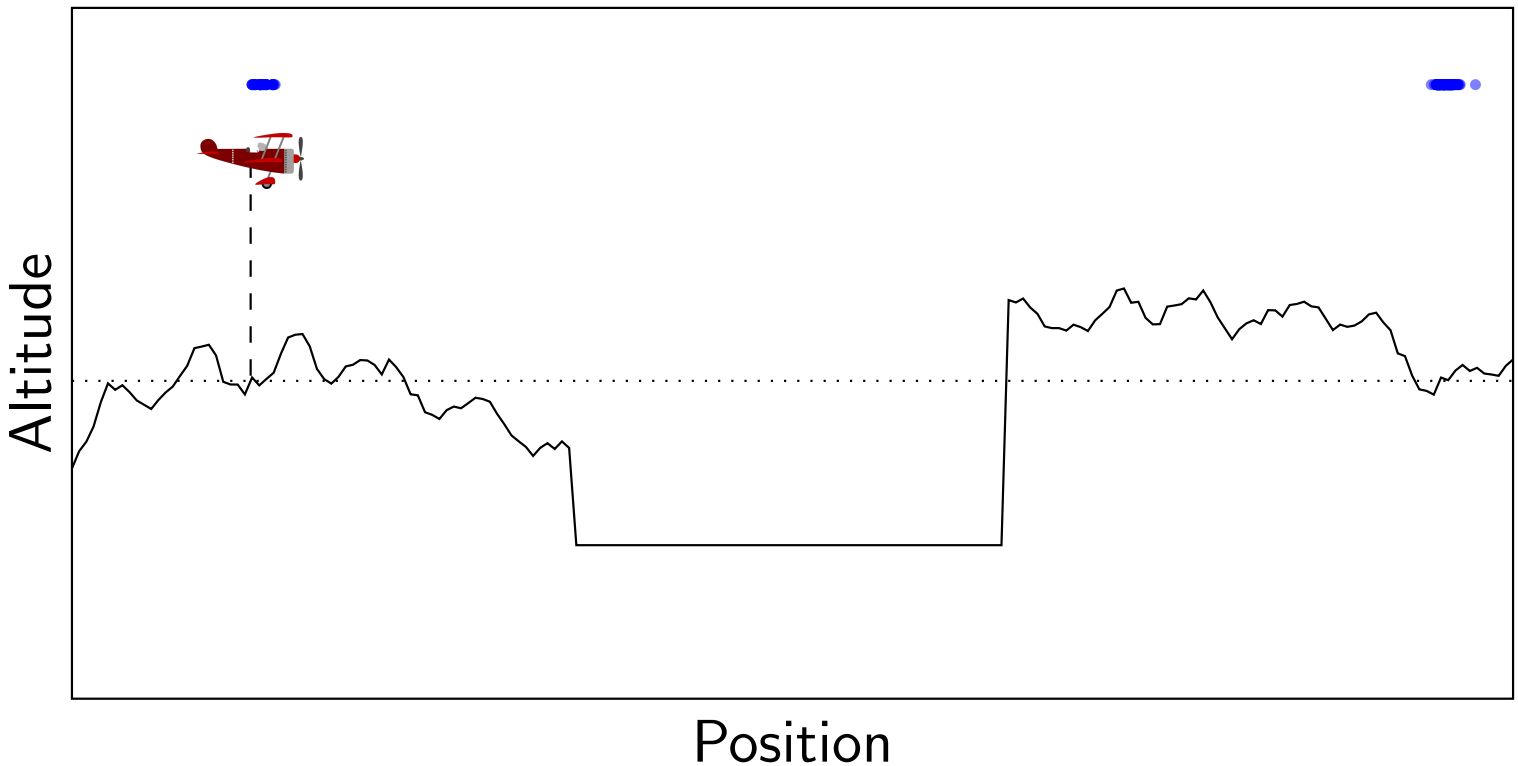


Sequential Monte Carlo inference



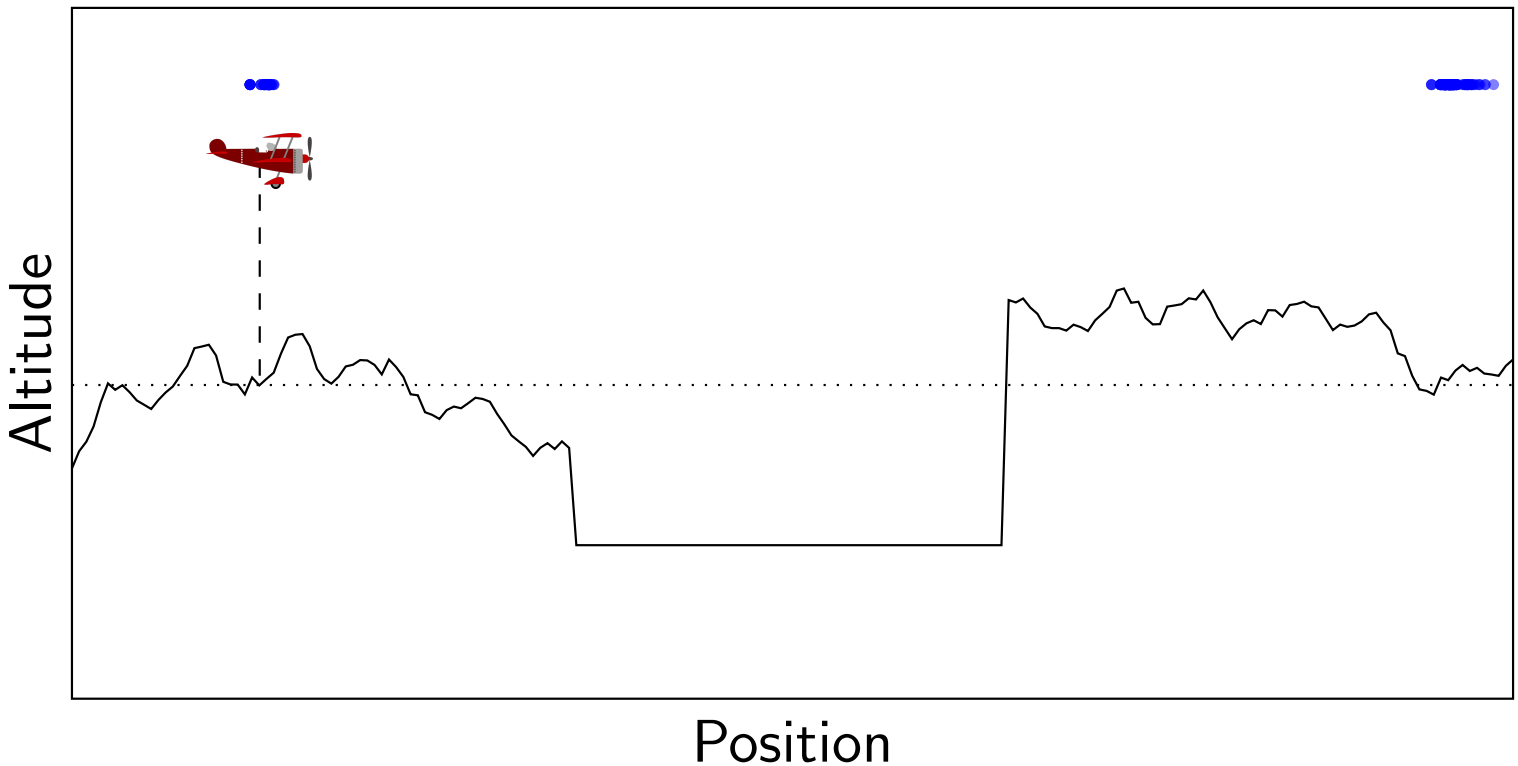
Sequential Monte Carlo inference

Propagate, weigh, resample



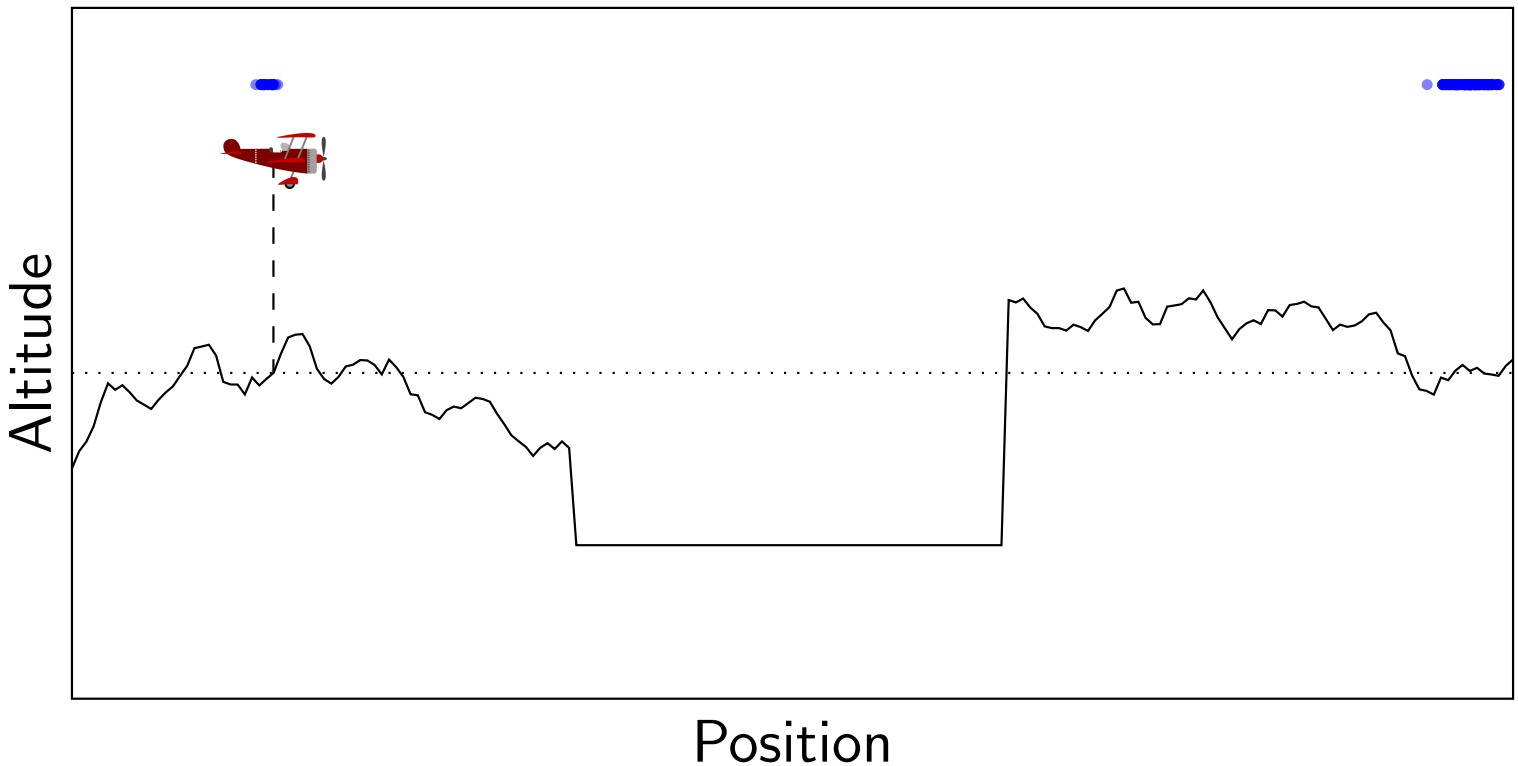
Sequential Monte Carlo inference

Propagate, weigh, resample



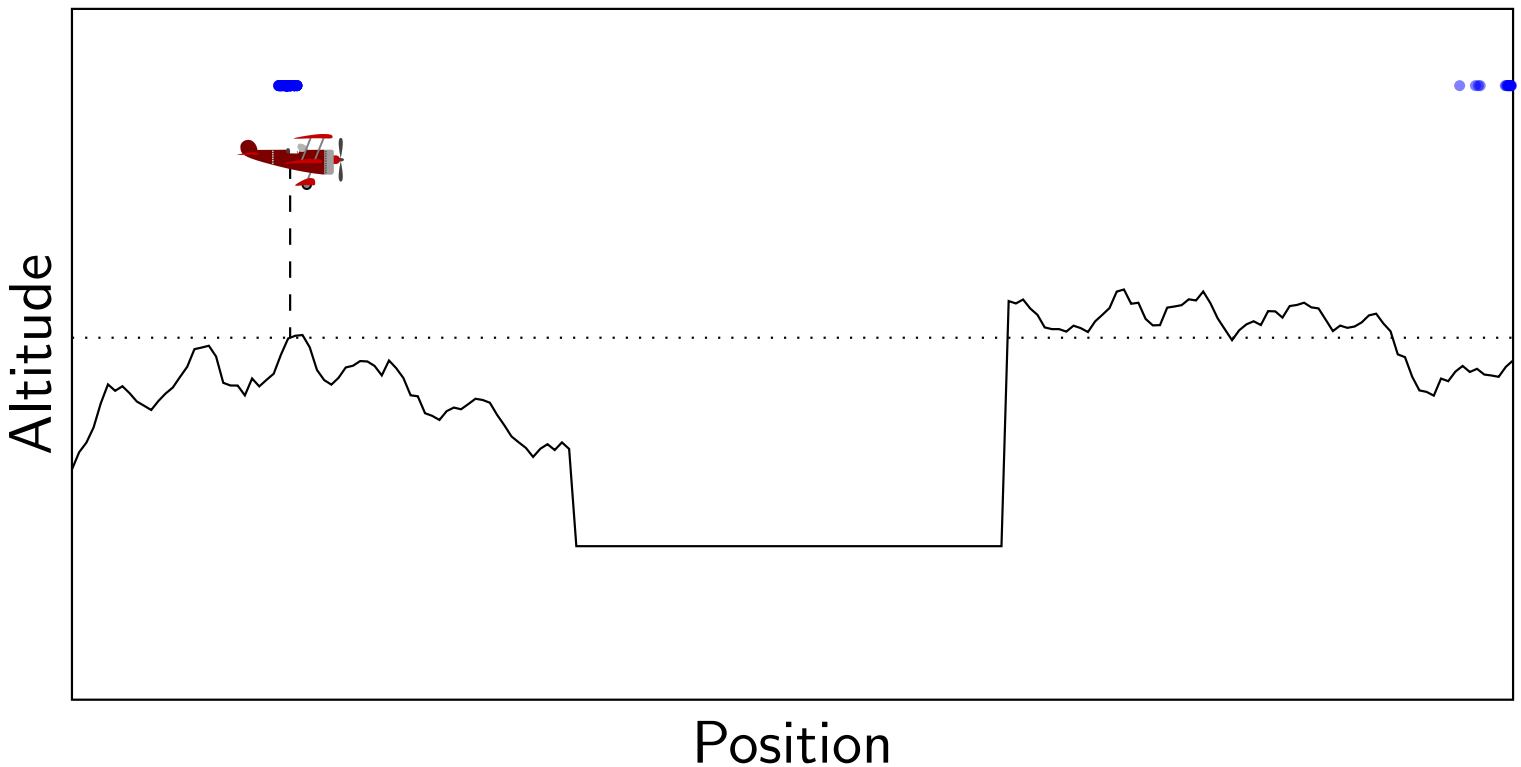
Sequential Monte Carlo inference

Propagate, weigh, resample



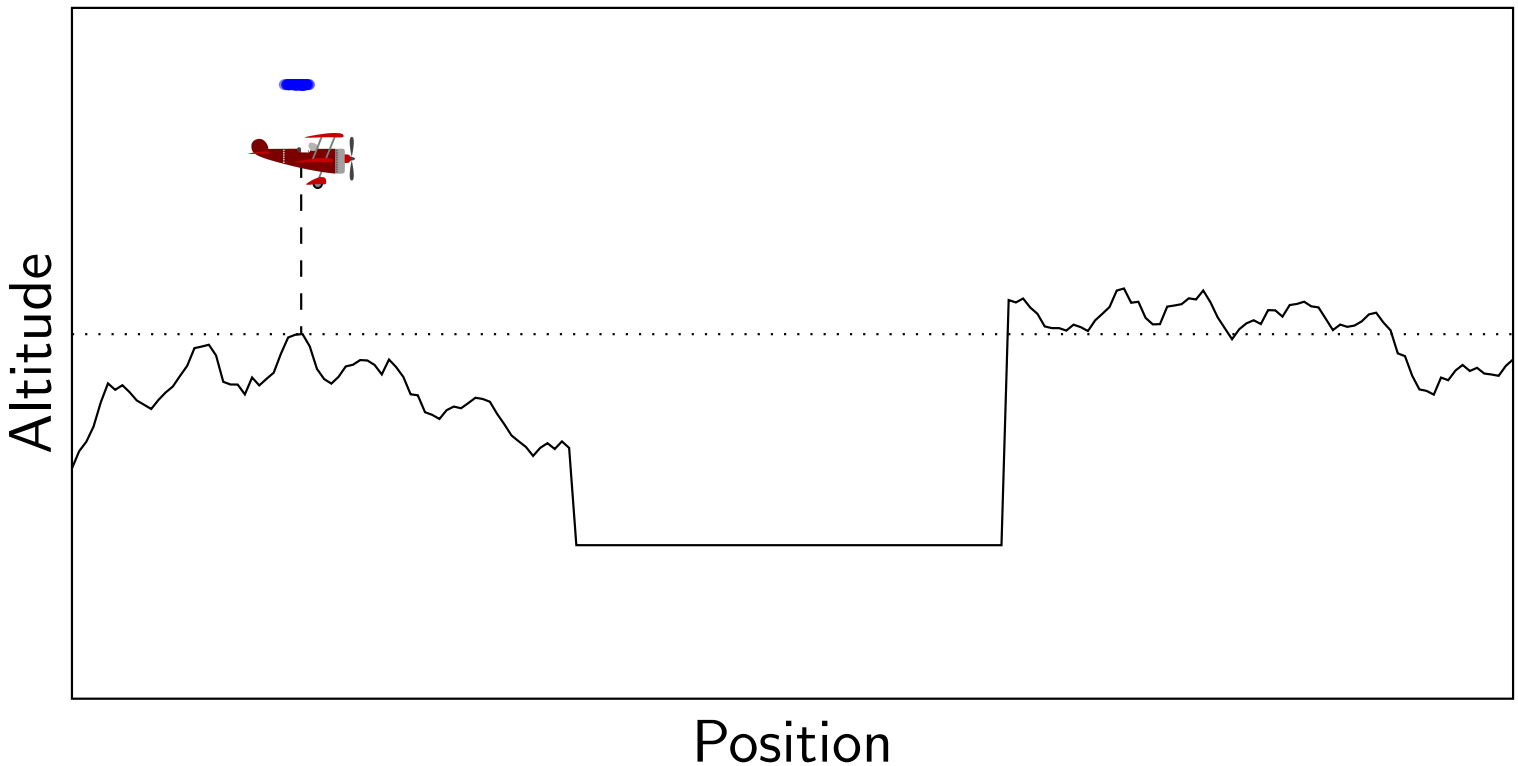
Sequential Monte Carlo inference

Propagate, weigh, resample



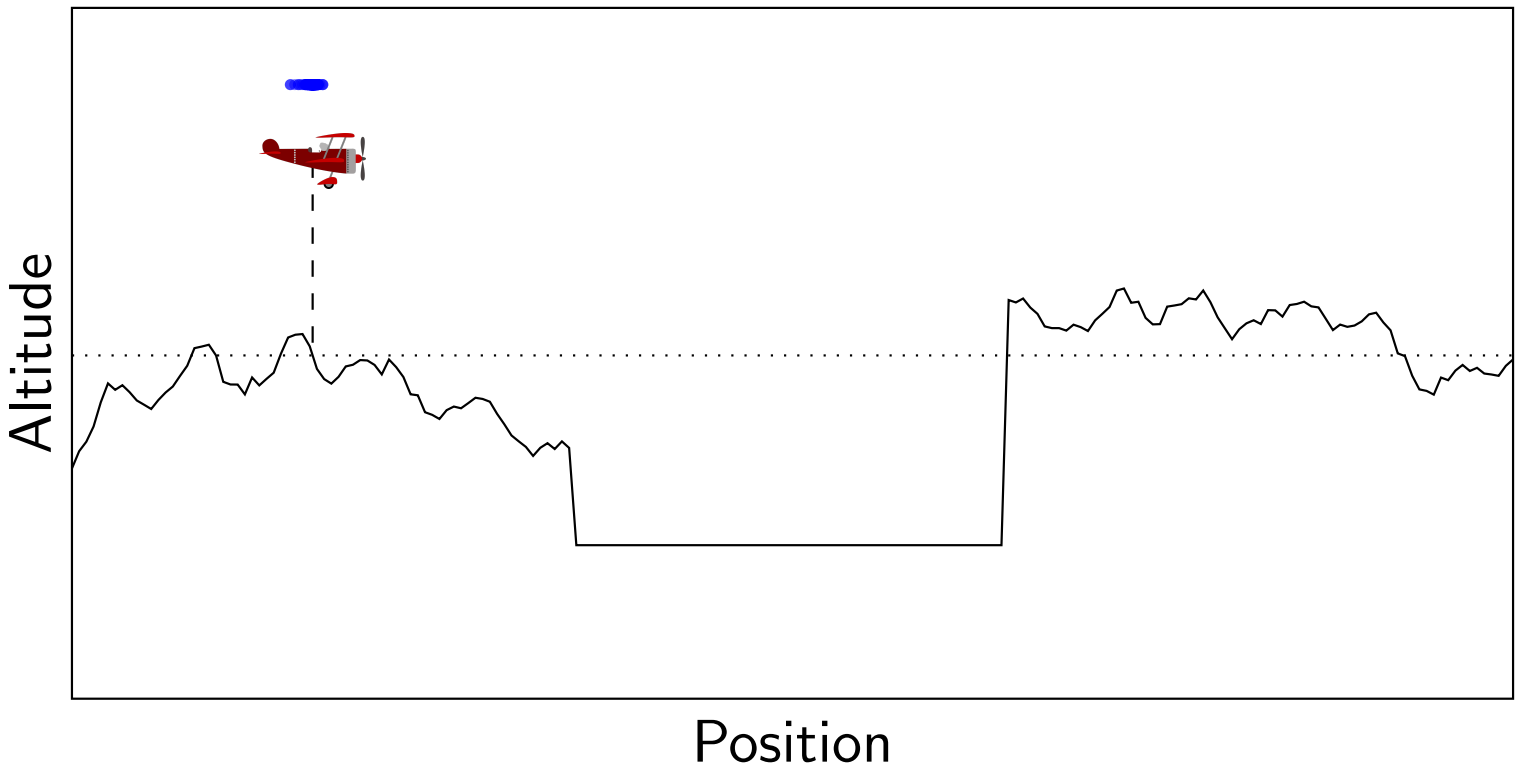
Sequential Monte Carlo inference

Propagate, weigh, resample



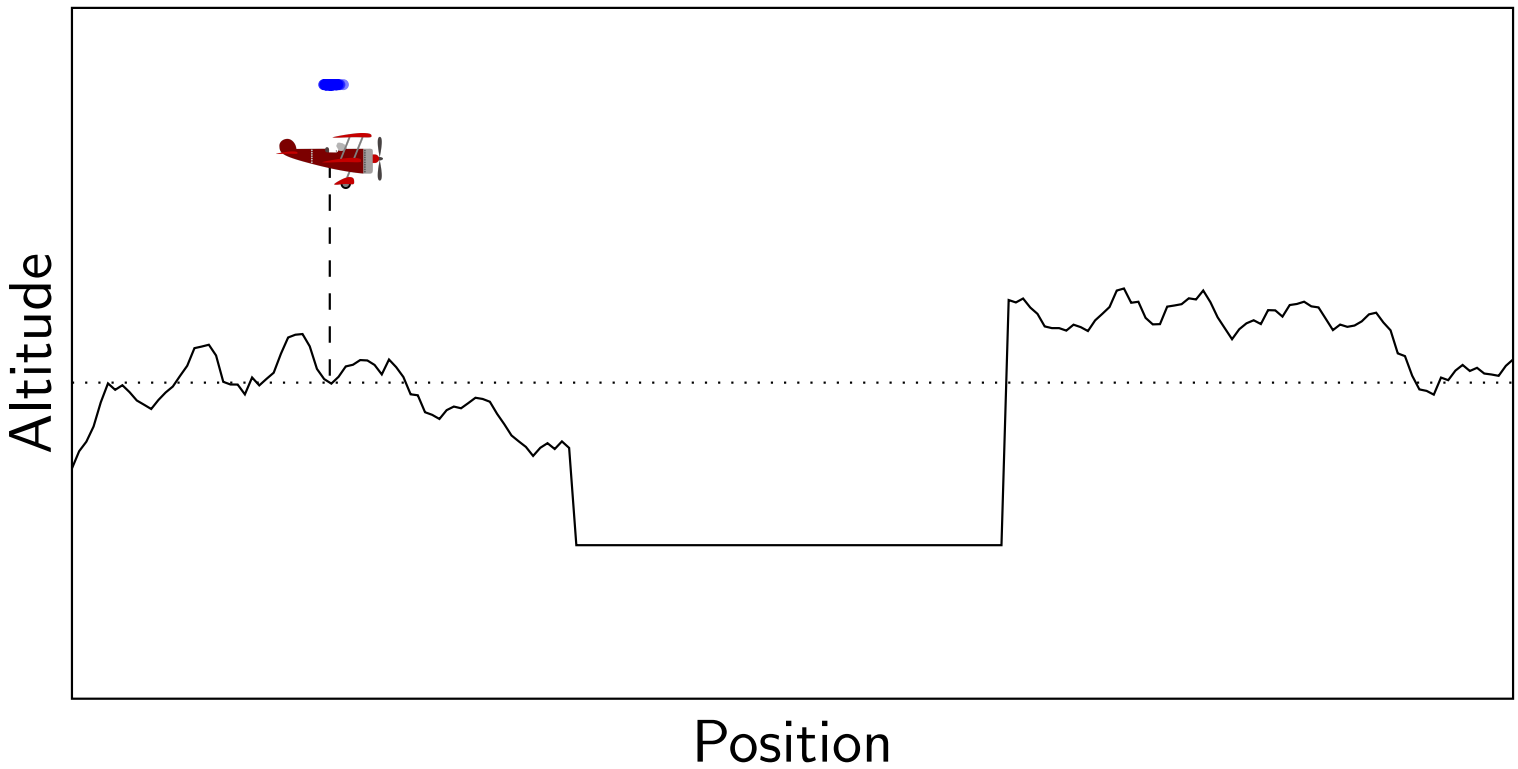
Sequential Monte Carlo inference

Propagate, weigh, resample



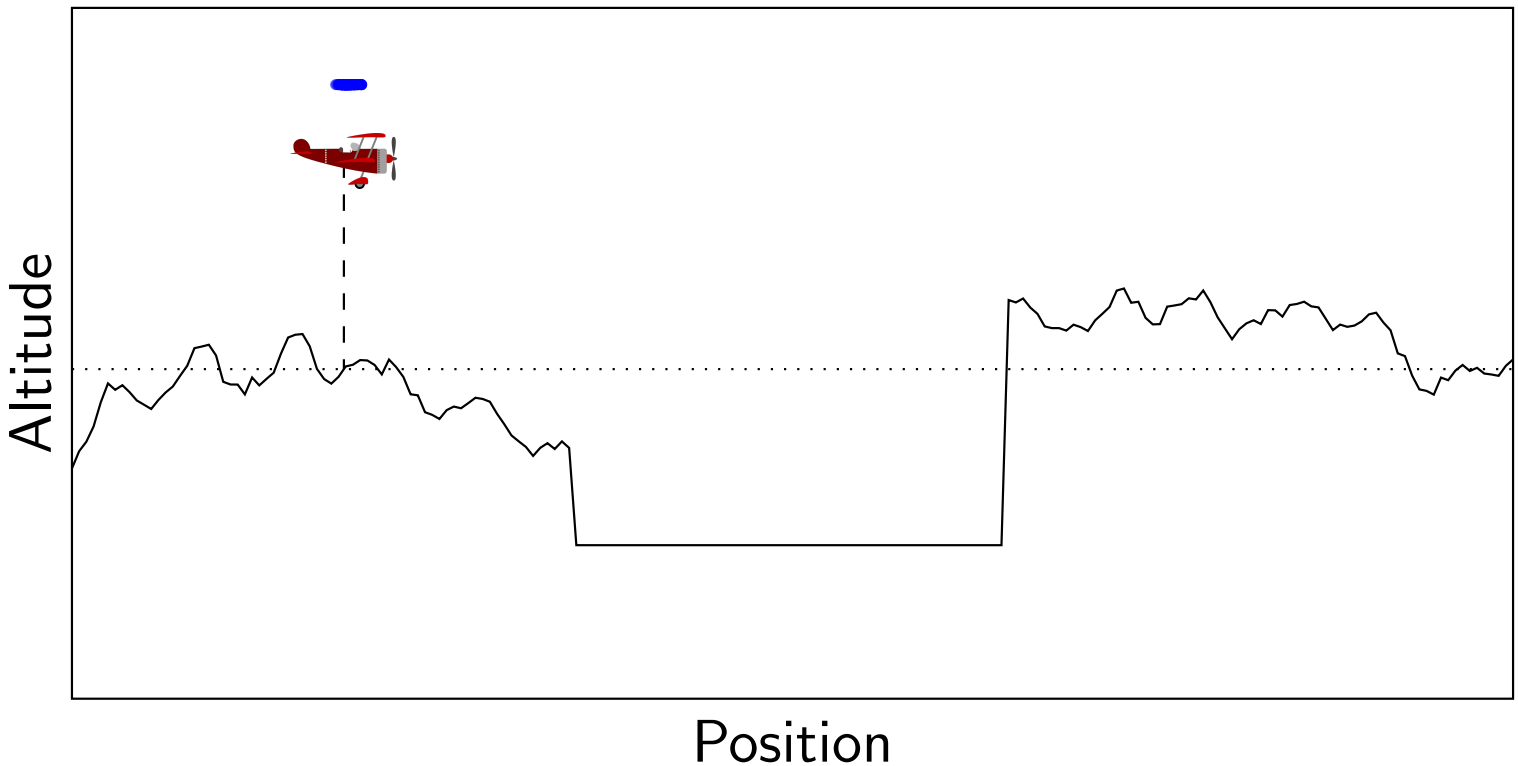
Sequential Monte Carlo inference

Propagate, weigh, resample



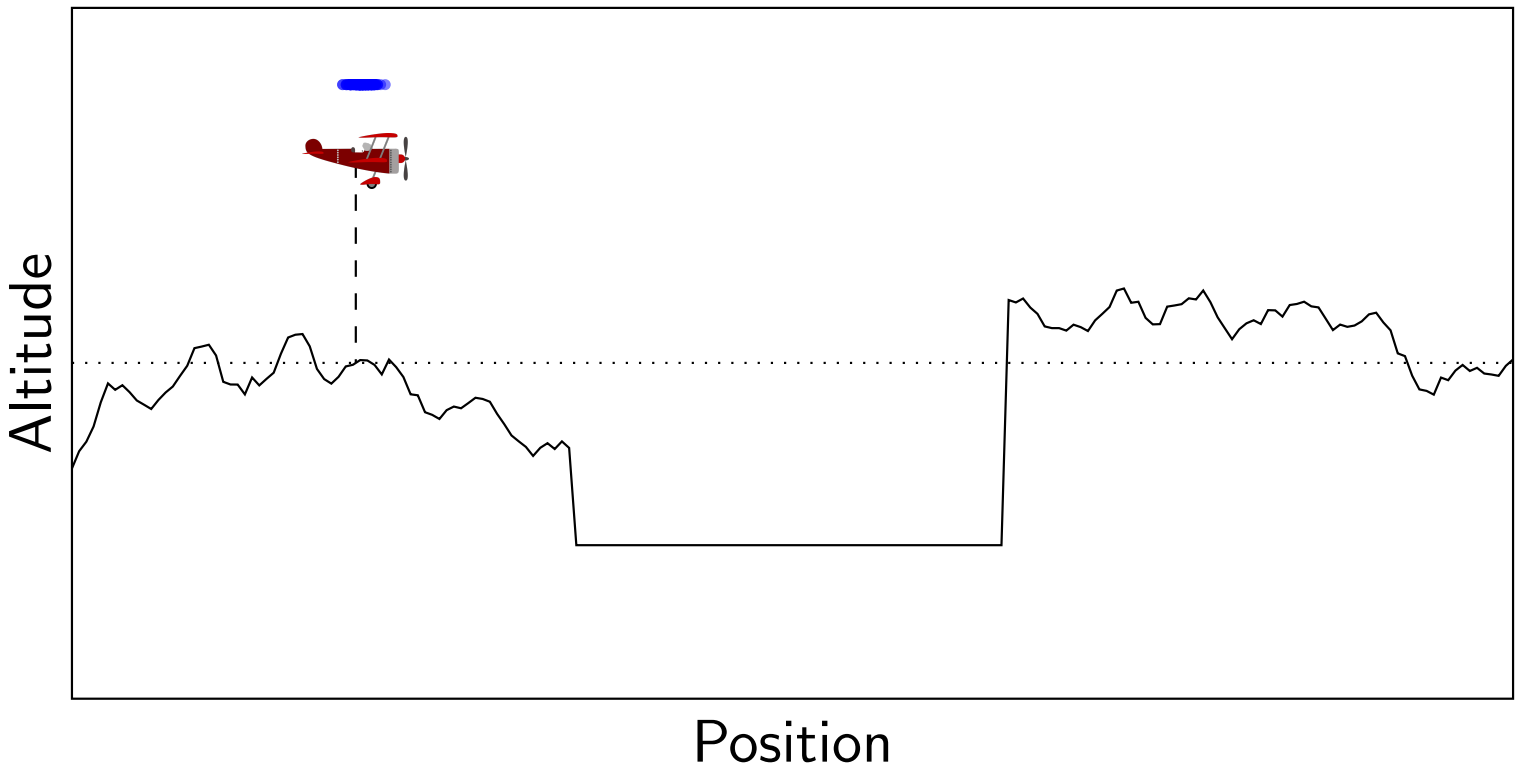
Sequential Monte Carlo inference

Propagate, weigh, resample



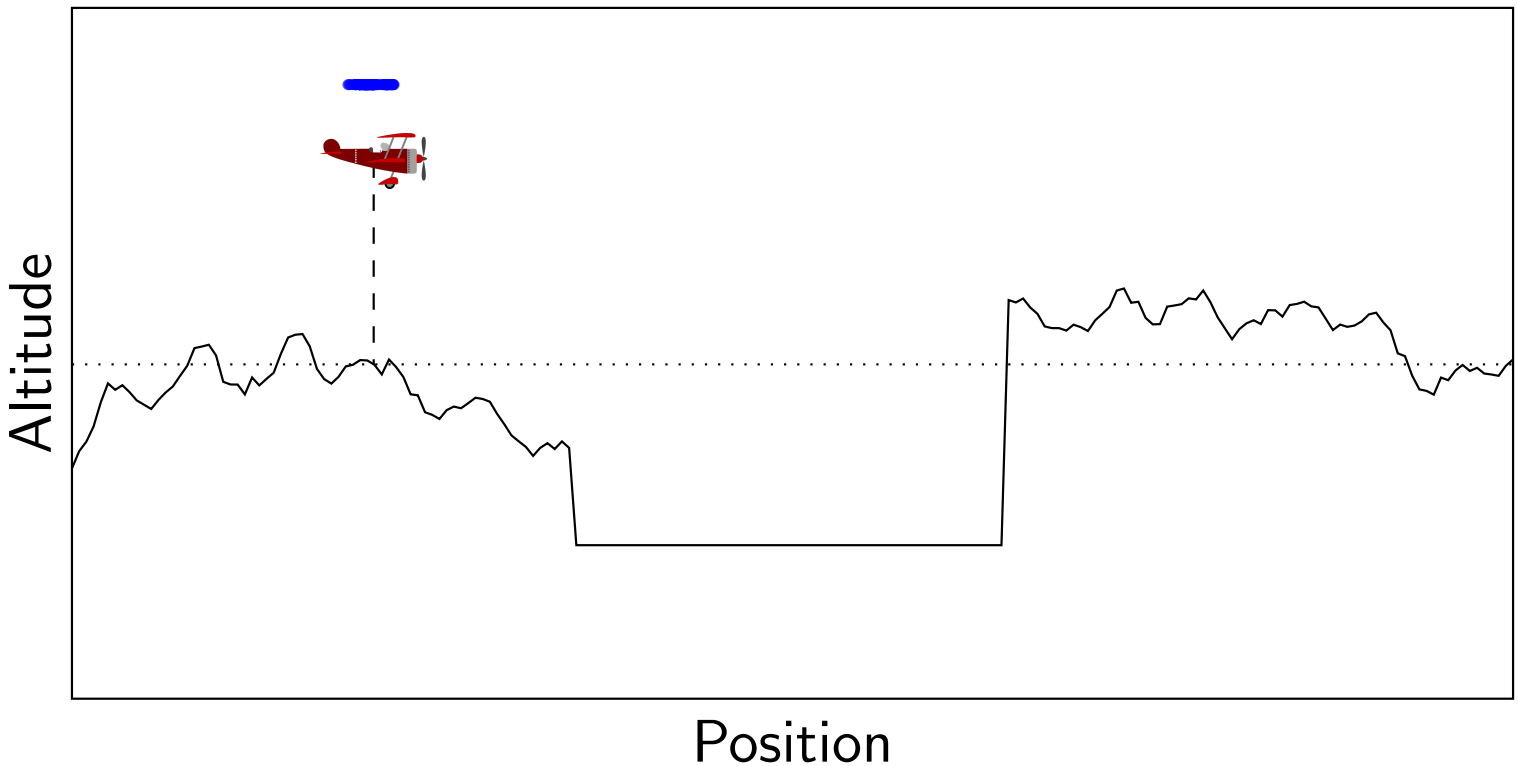
Sequential Monte Carlo inference

Propagate, weigh, resample



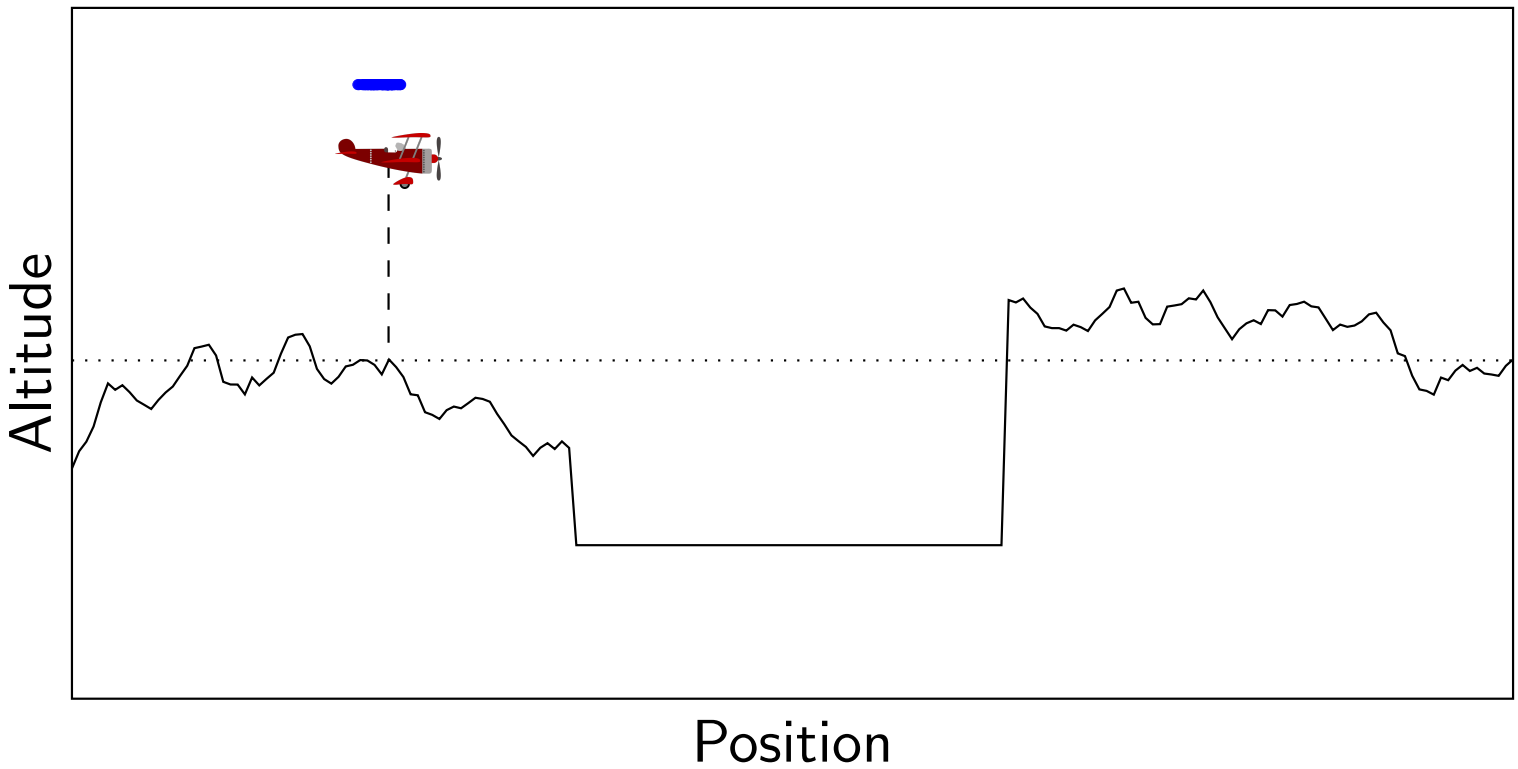
Sequential Monte Carlo inference

Propagate, weigh, resample



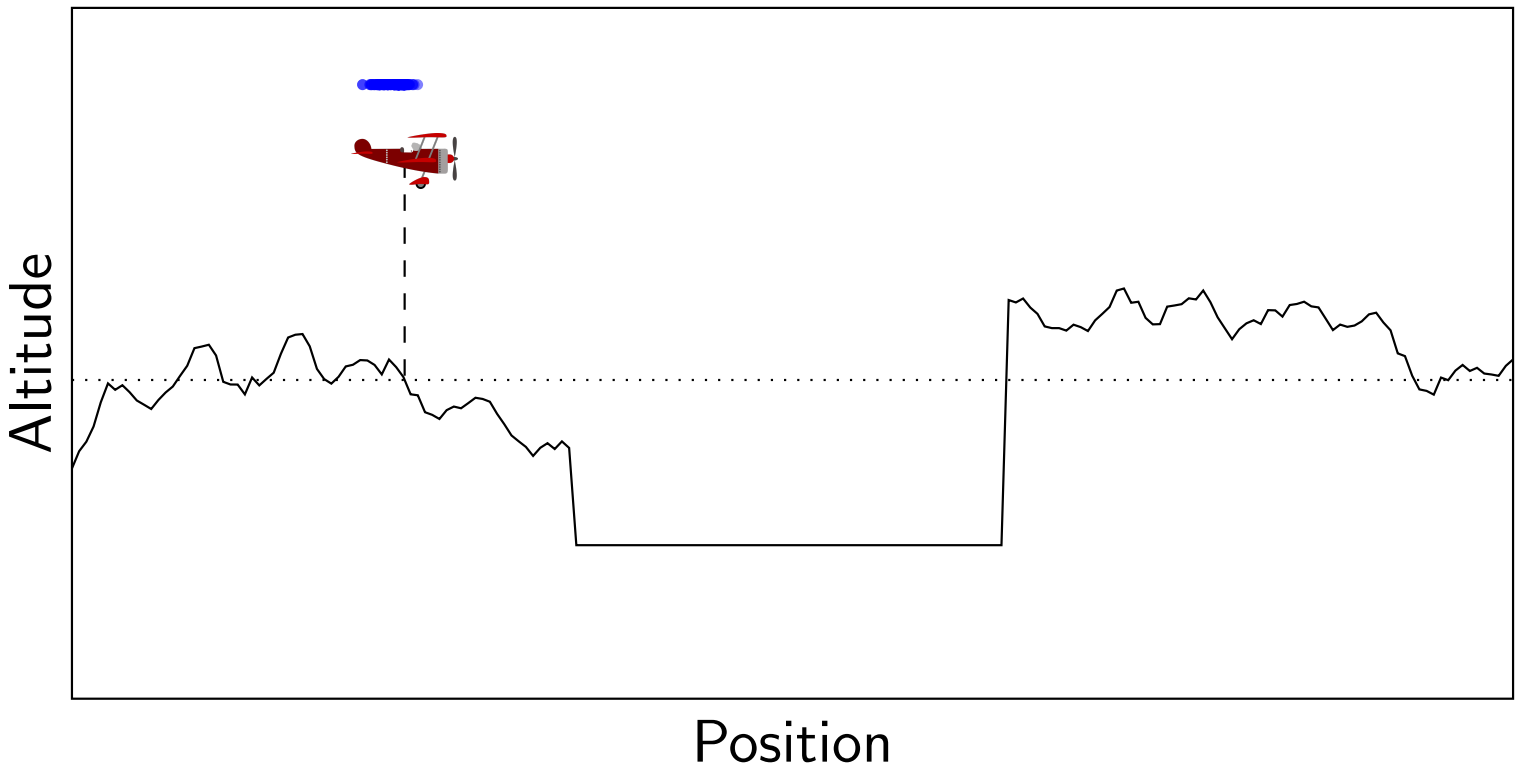
Sequential Monte Carlo inference

Propagate, weigh, resample



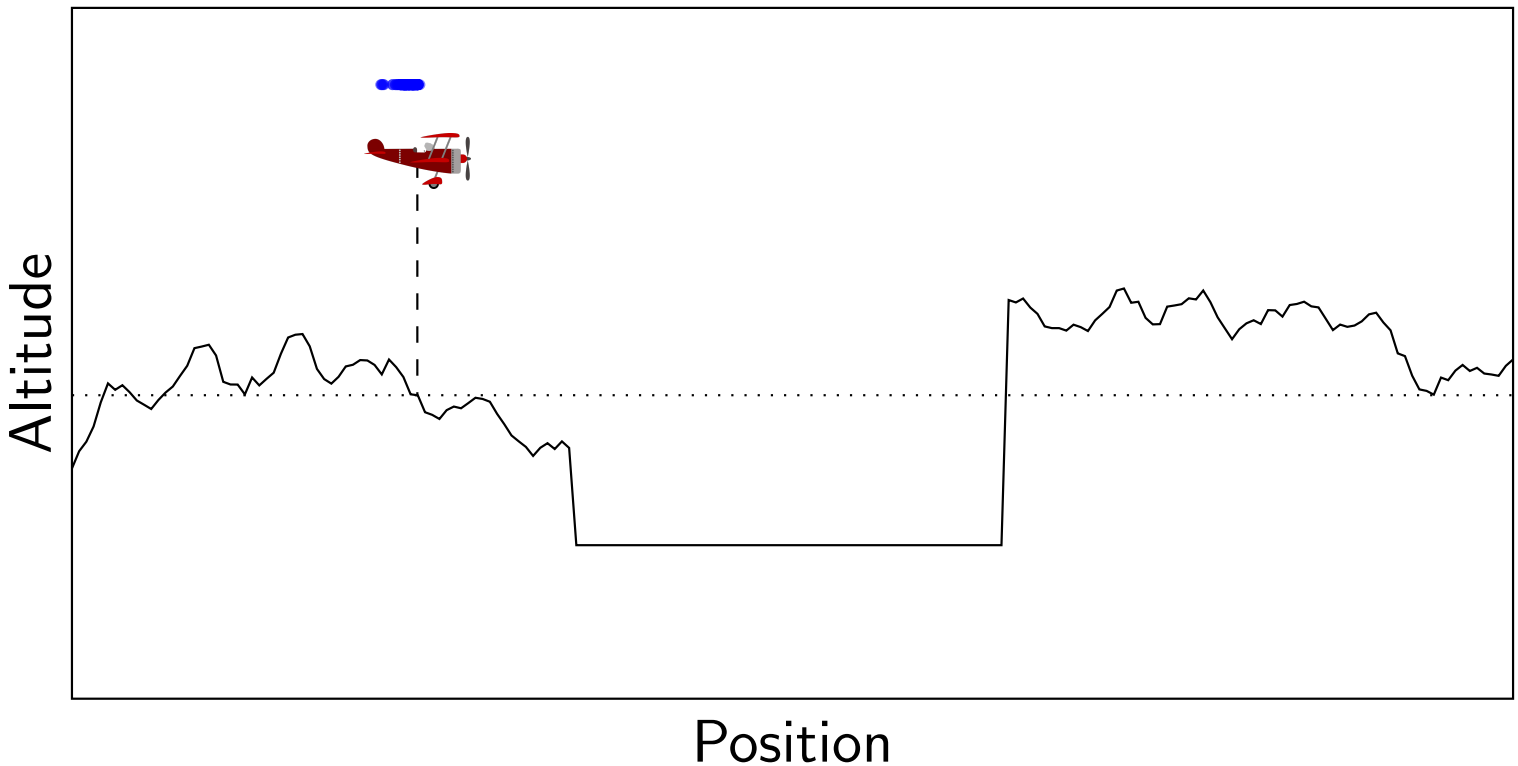
Sequential Monte Carlo inference

Propagate, weigh, resample



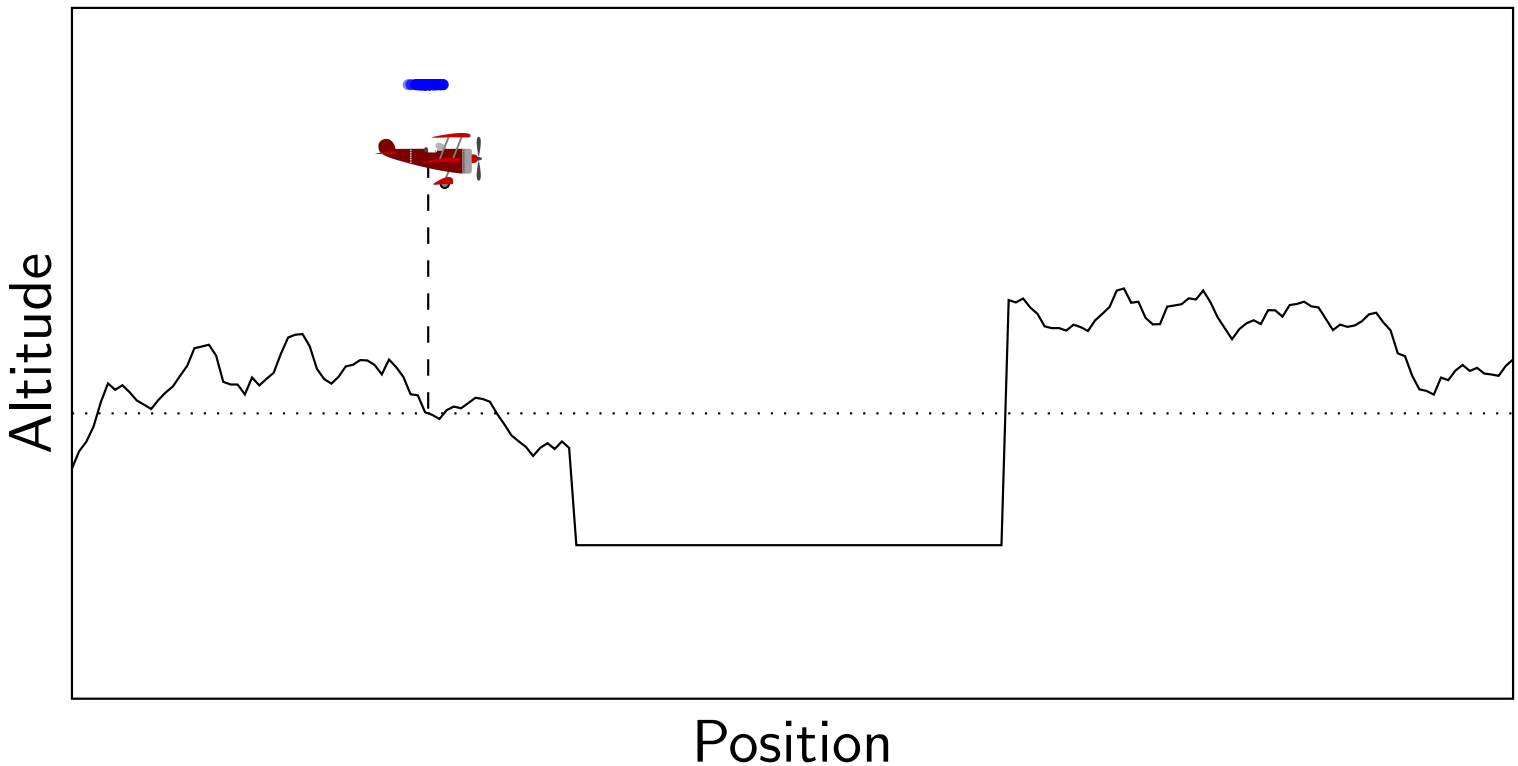
Sequential Monte Carlo inference

Propagate, weigh, resample



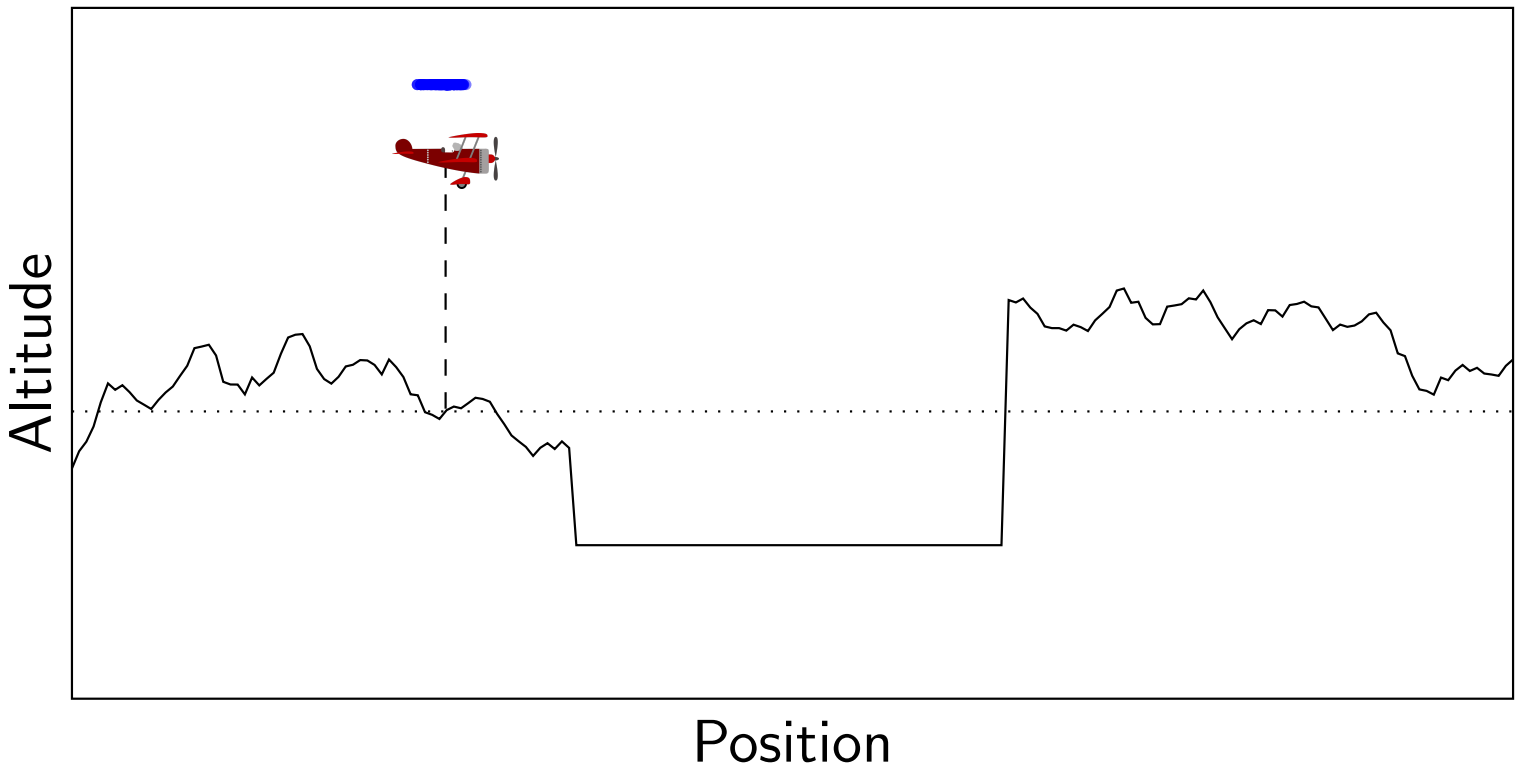
Sequential Monte Carlo inference

Propagate, weigh, resample



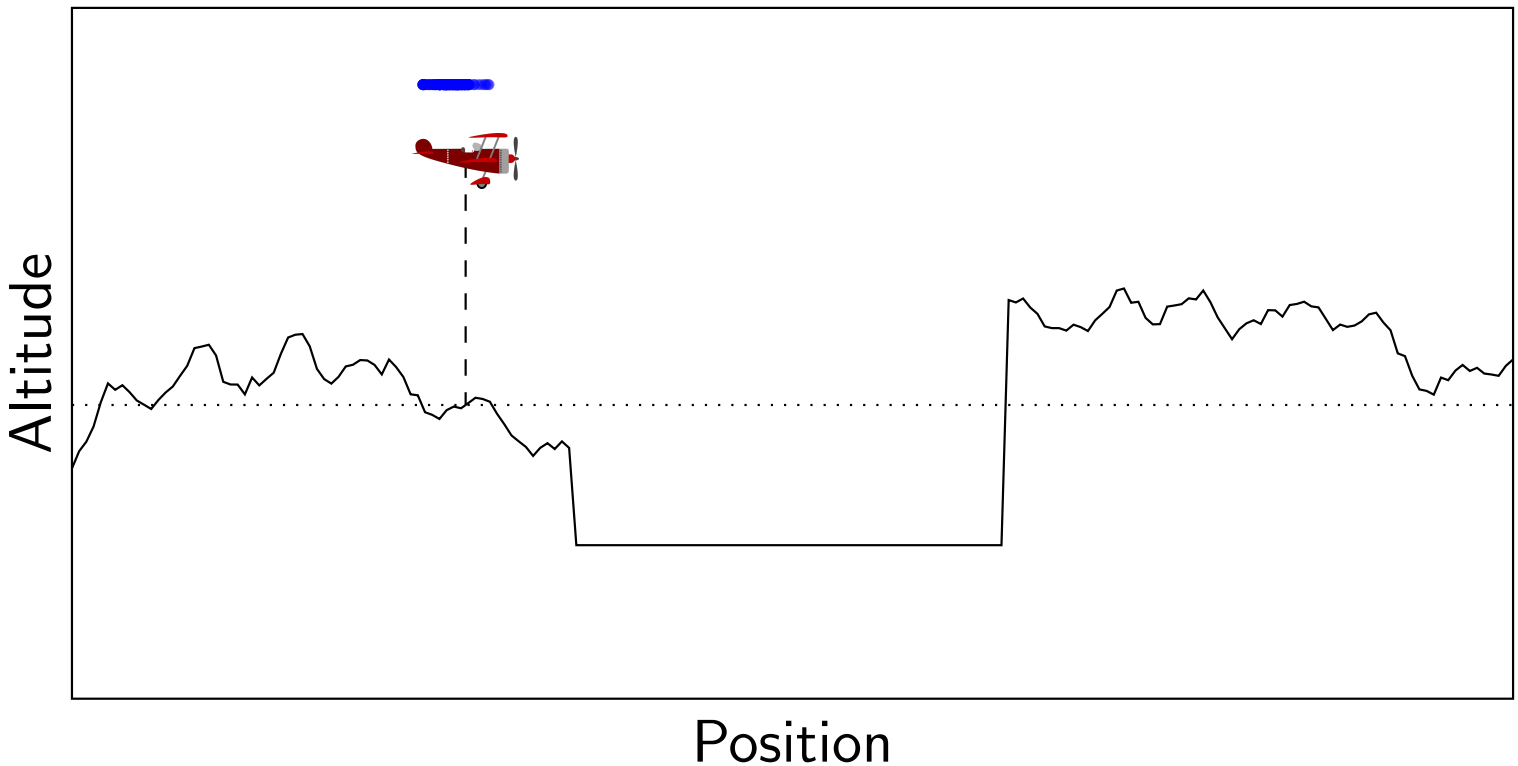
Sequential Monte Carlo inference

Propagate, weigh, resample



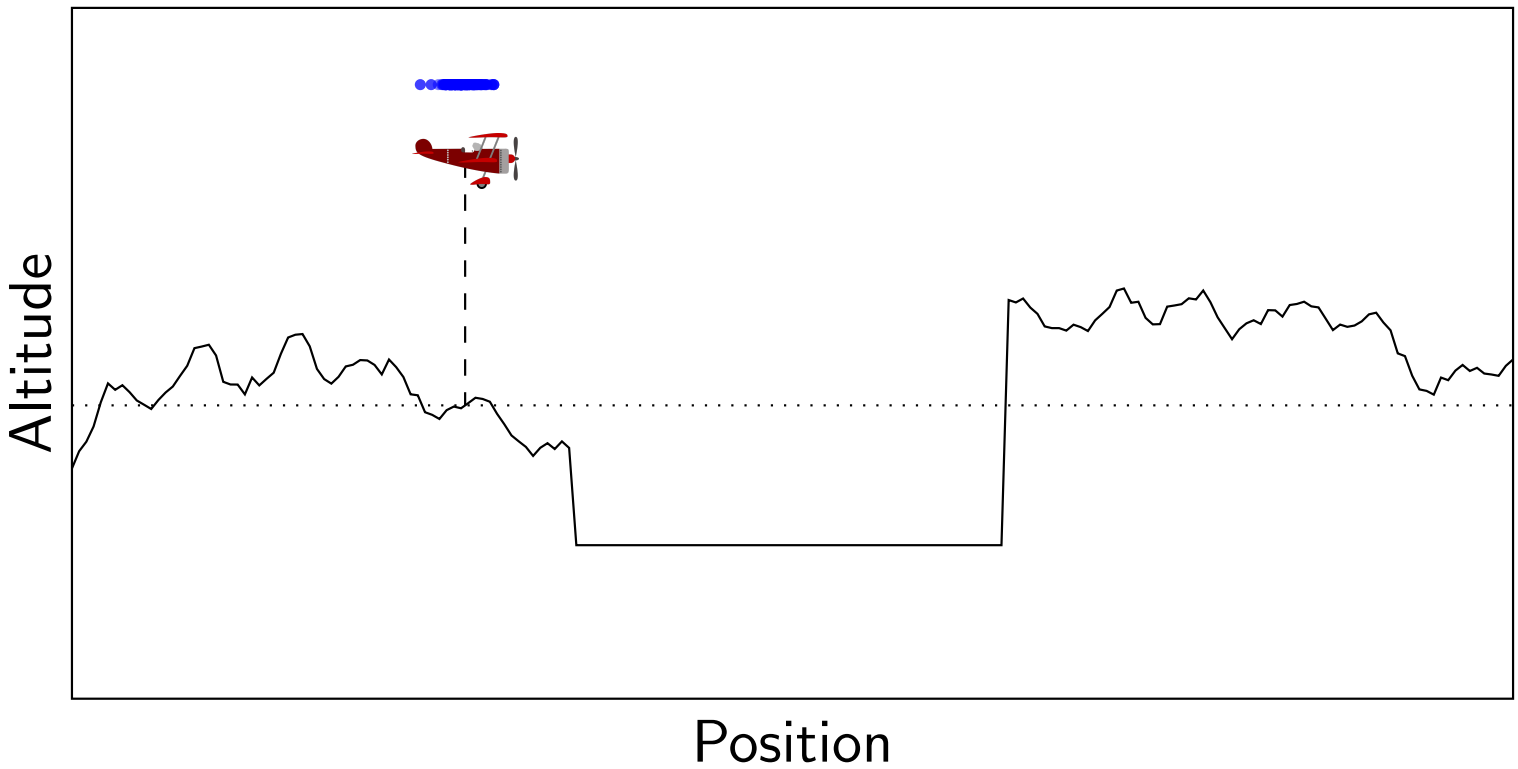
Sequential Monte Carlo inference

Propagate, weigh, resample



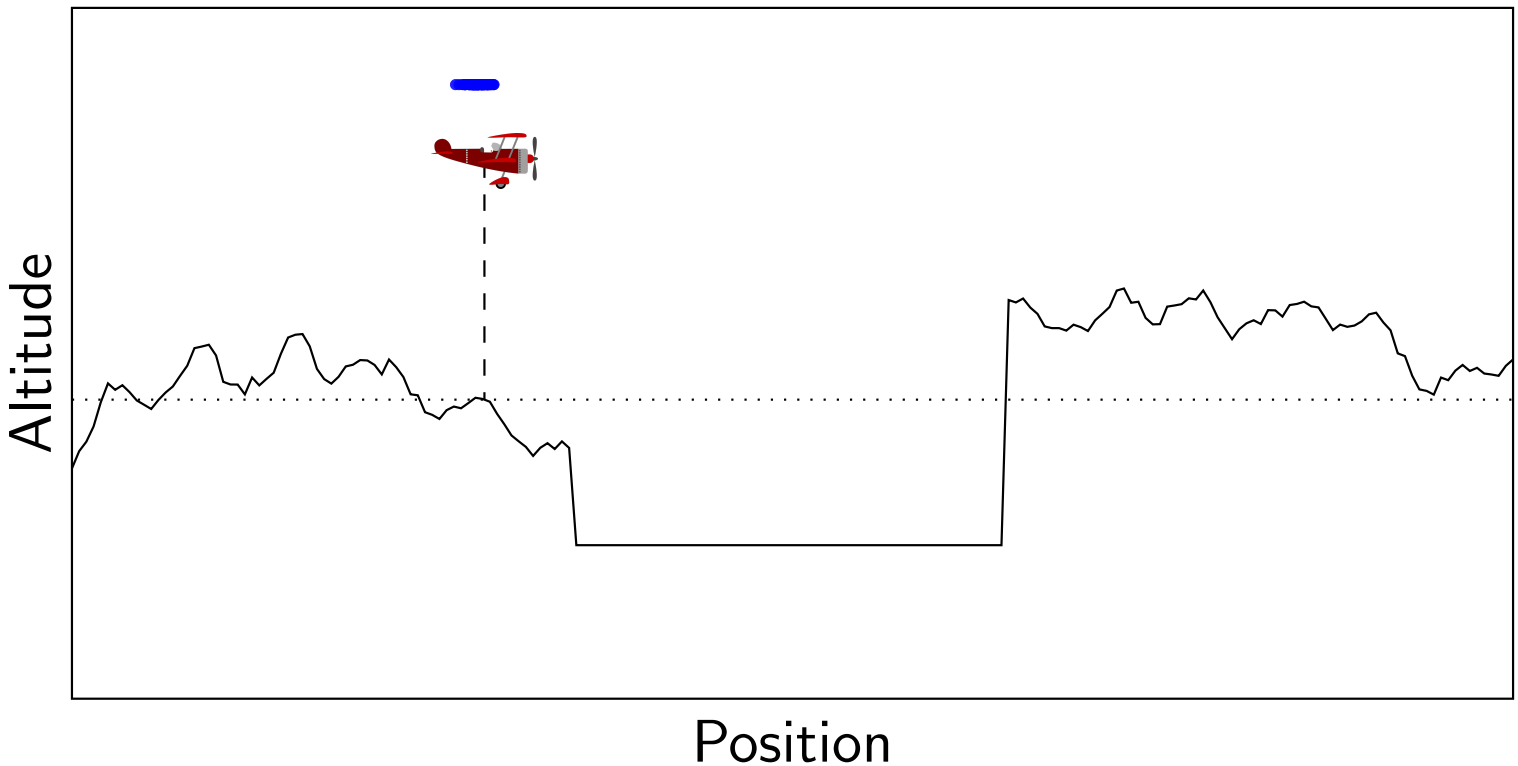
Sequential Monte Carlo inference

Propagate, weigh, resample



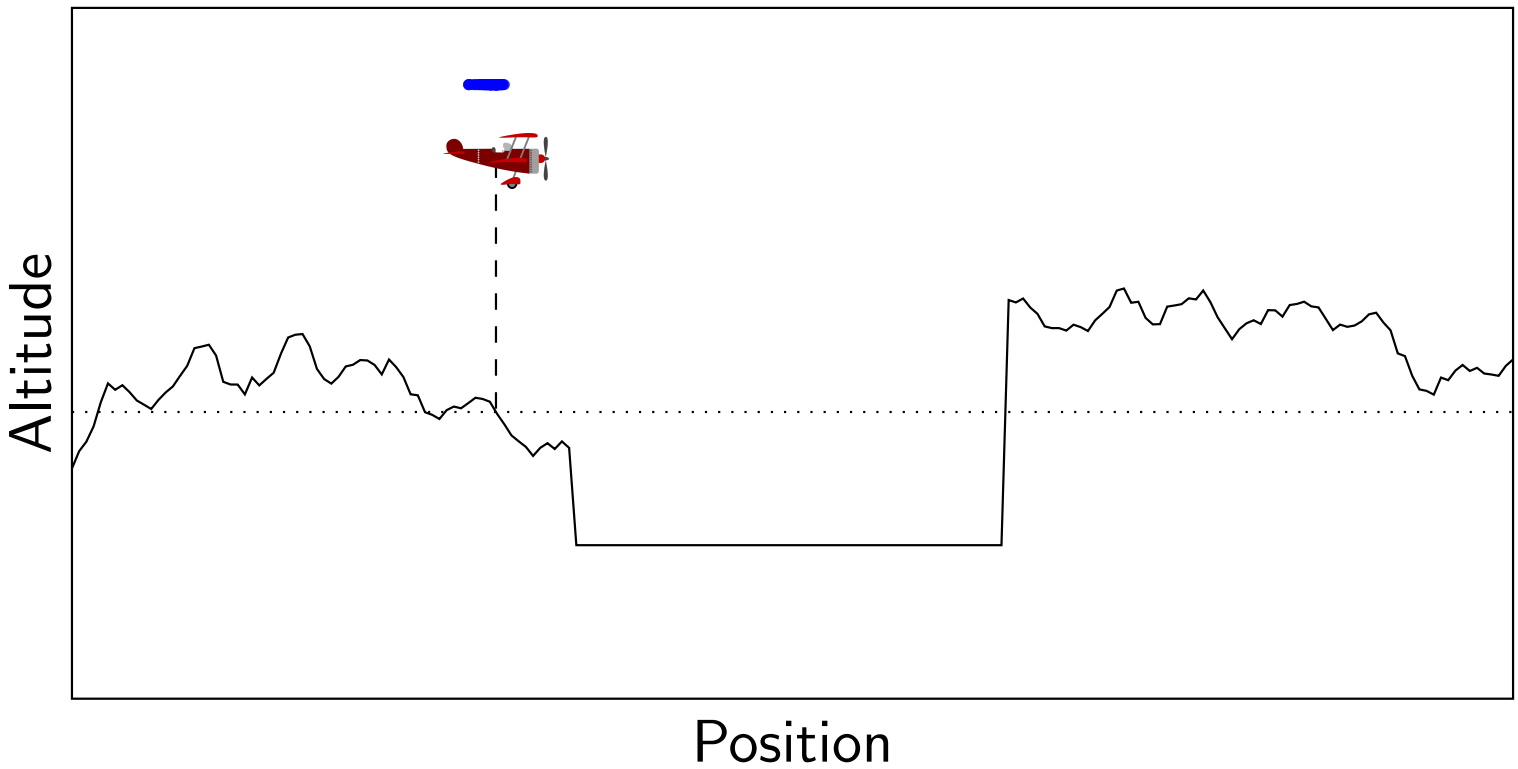
Sequential Monte Carlo inference

Propagate, weigh, resample



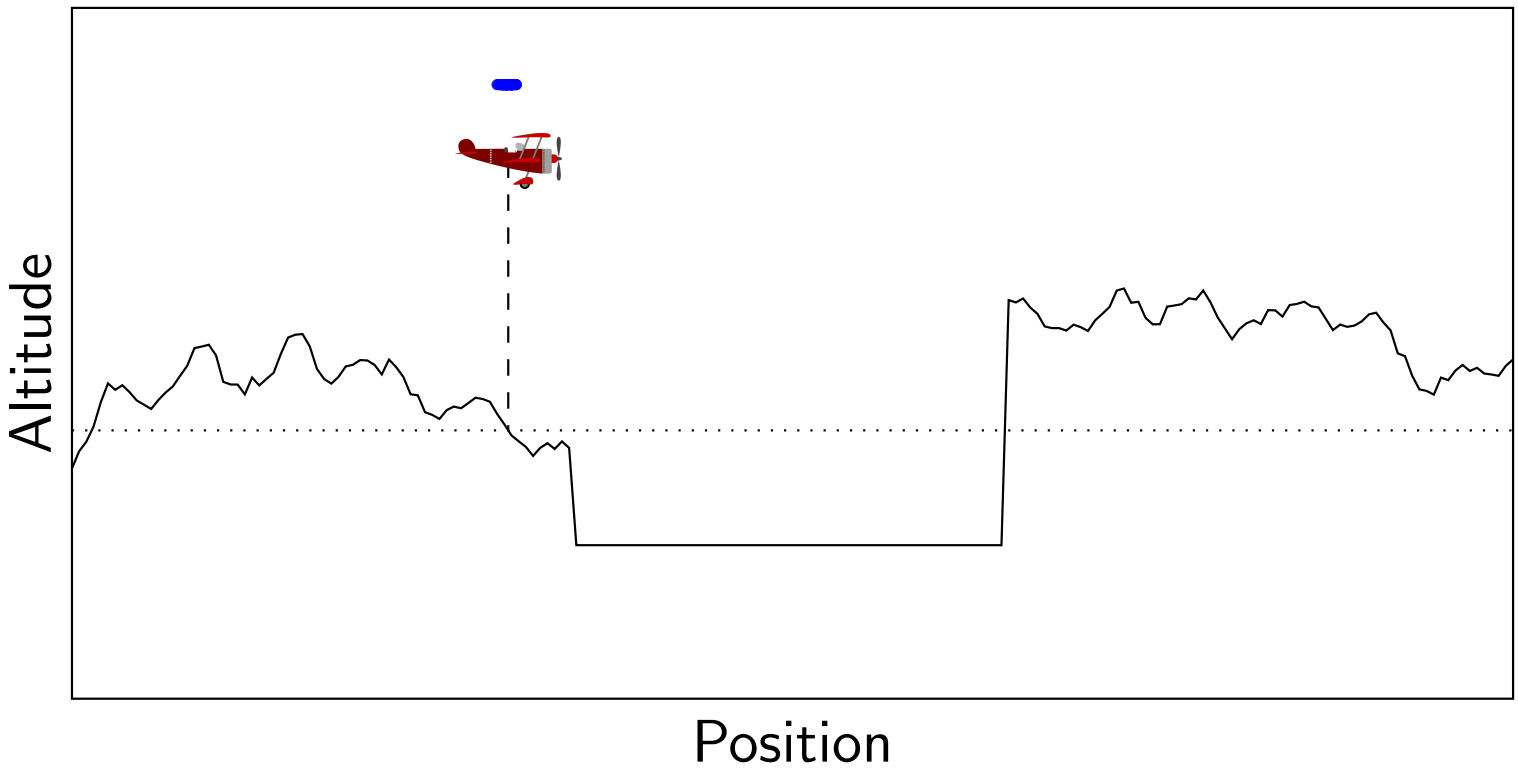
Sequential Monte Carlo inference

Propagate, weigh, resample



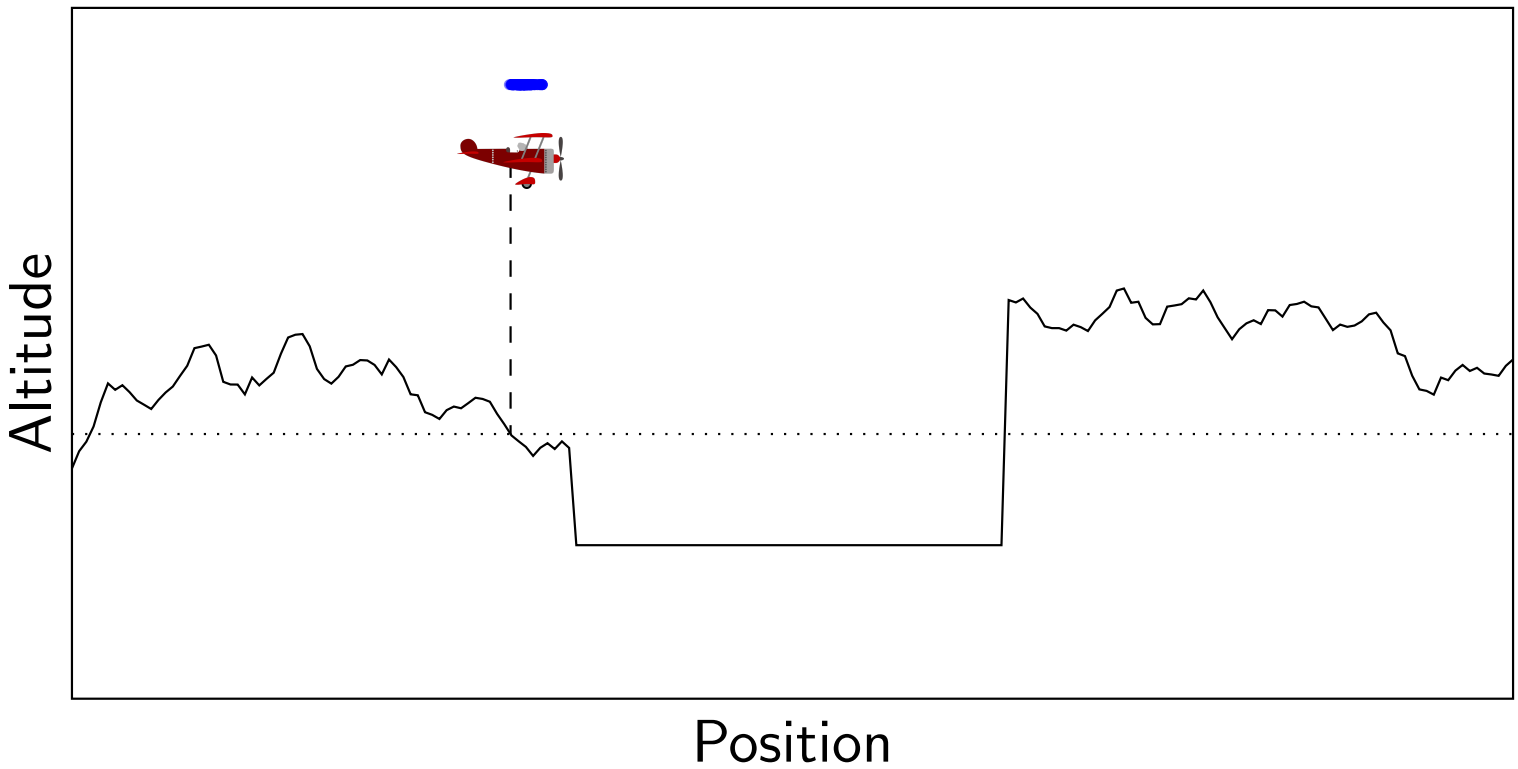
Sequential Monte Carlo inference

Propagate, weigh, resample



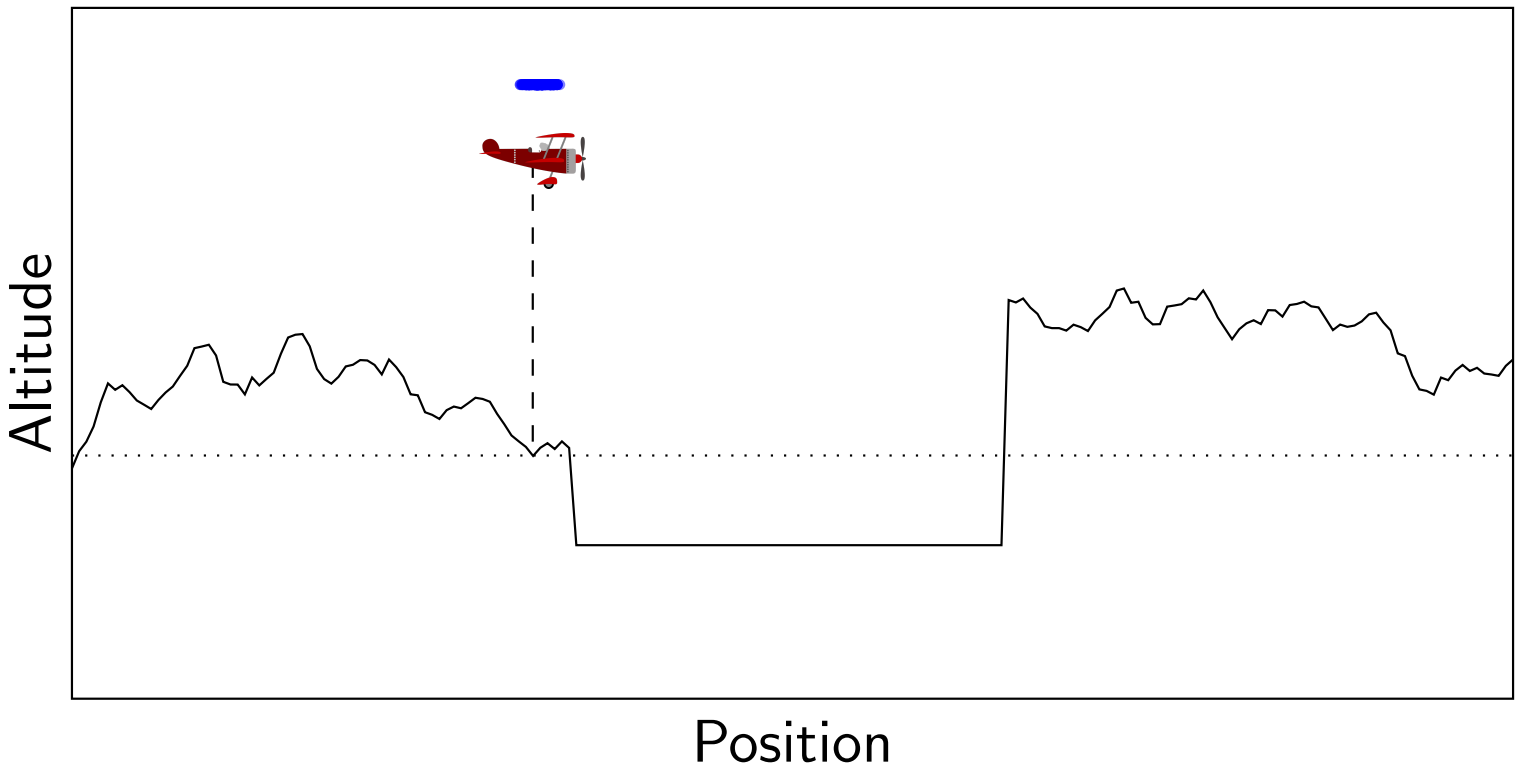
Sequential Monte Carlo inference

Propagate, weigh, resample



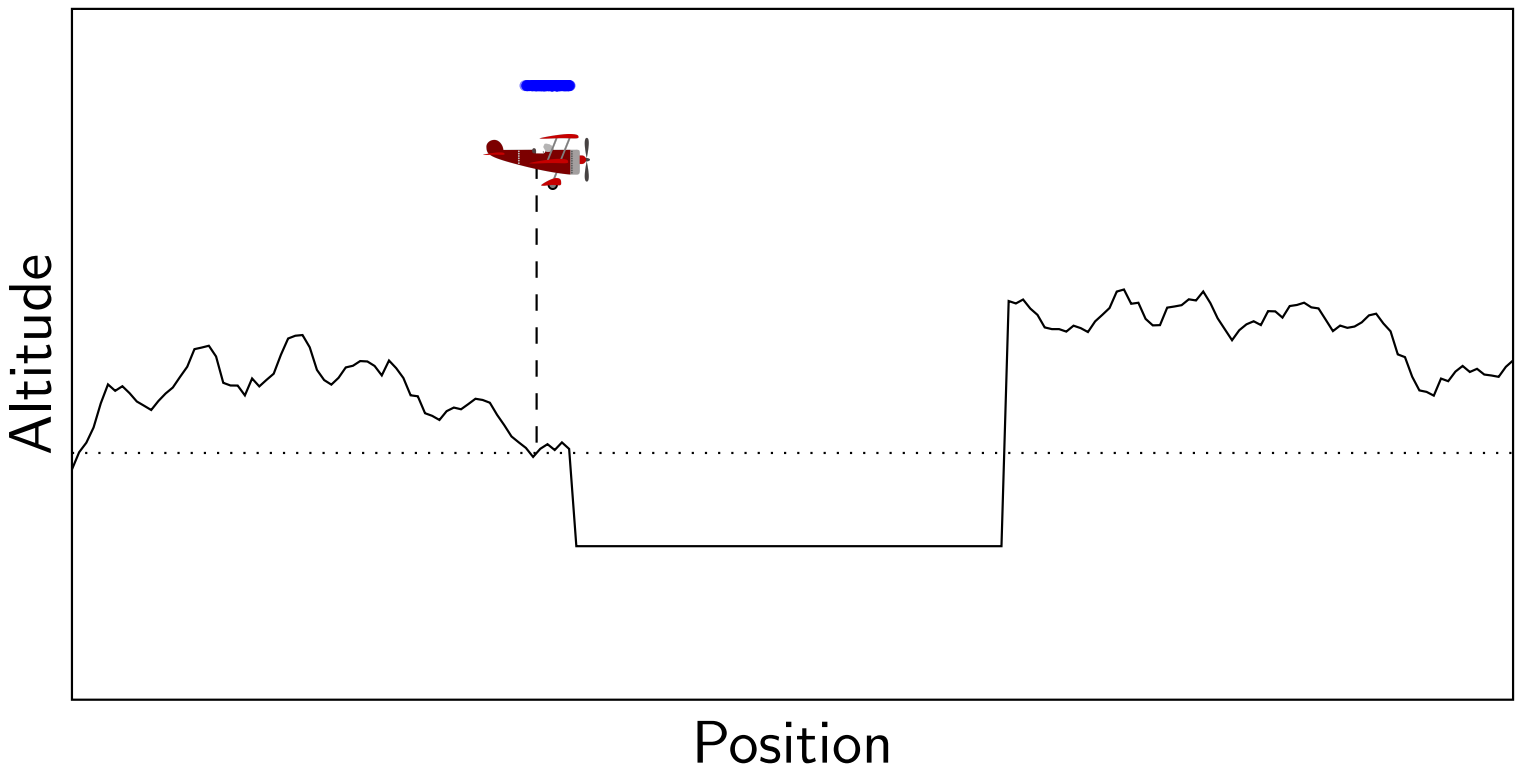
Sequential Monte Carlo inference

Propagate, weigh, resample



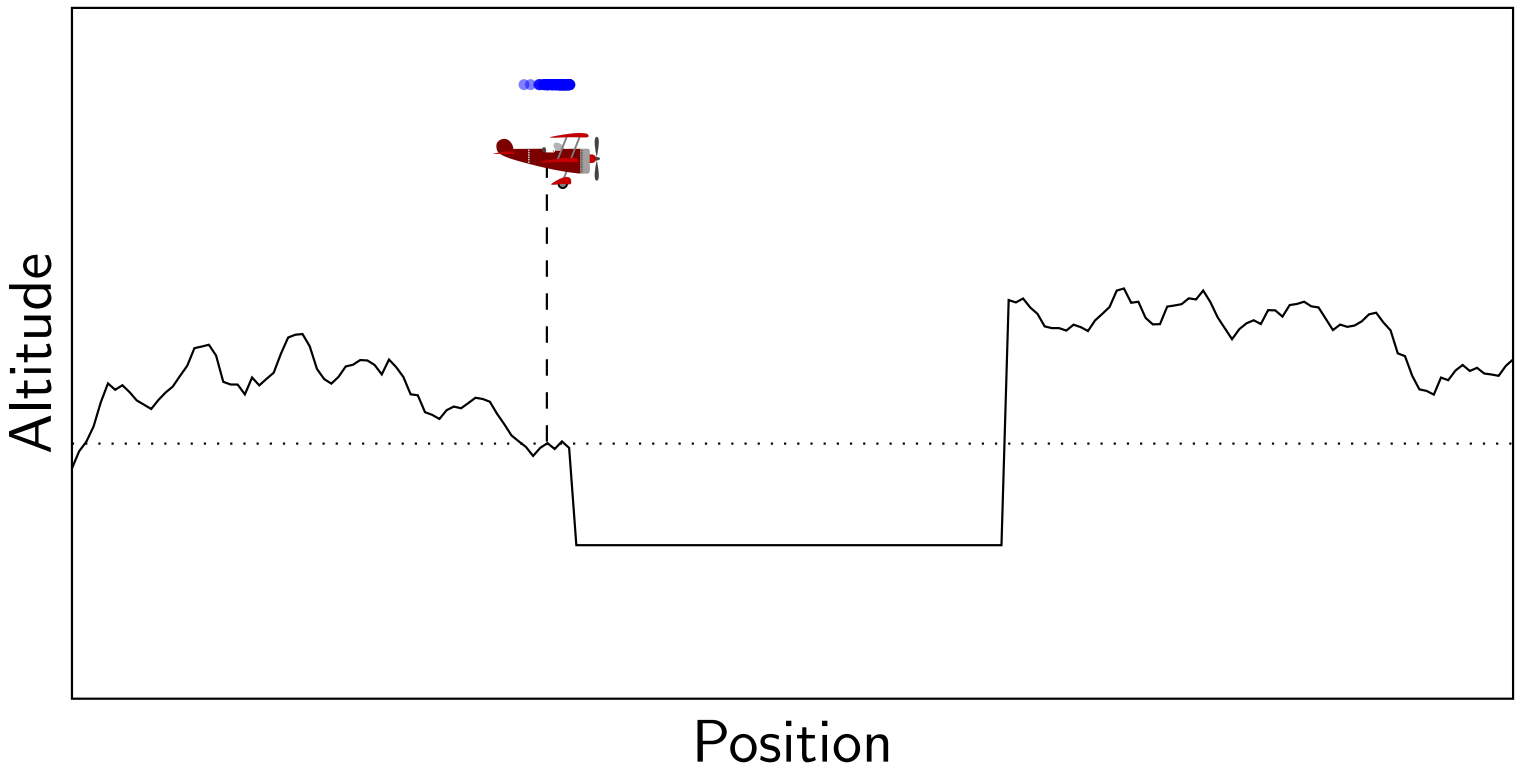
Sequential Monte Carlo inference

Propagate, weigh, resample



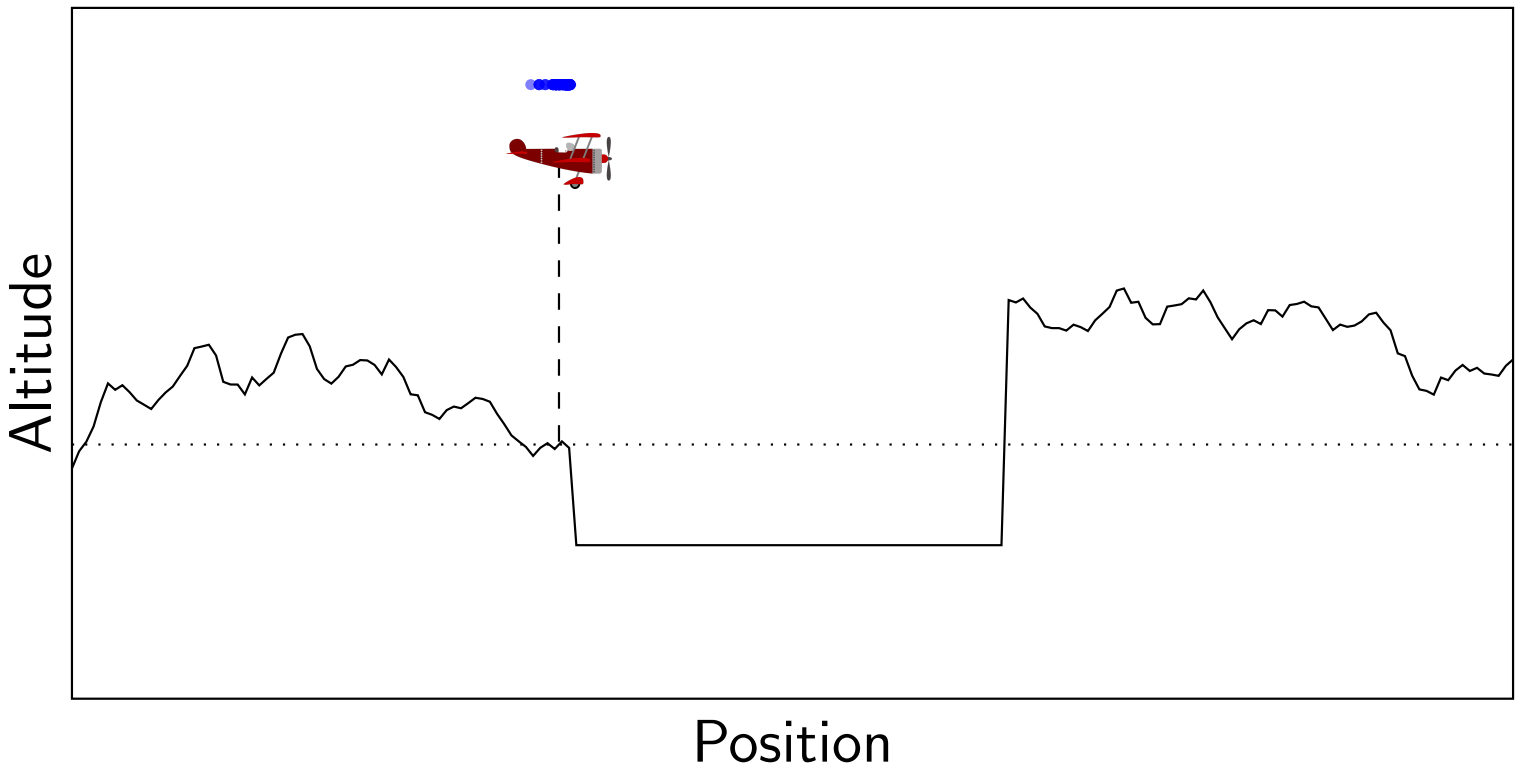
Sequential Monte Carlo inference

Propagate, weigh, resample



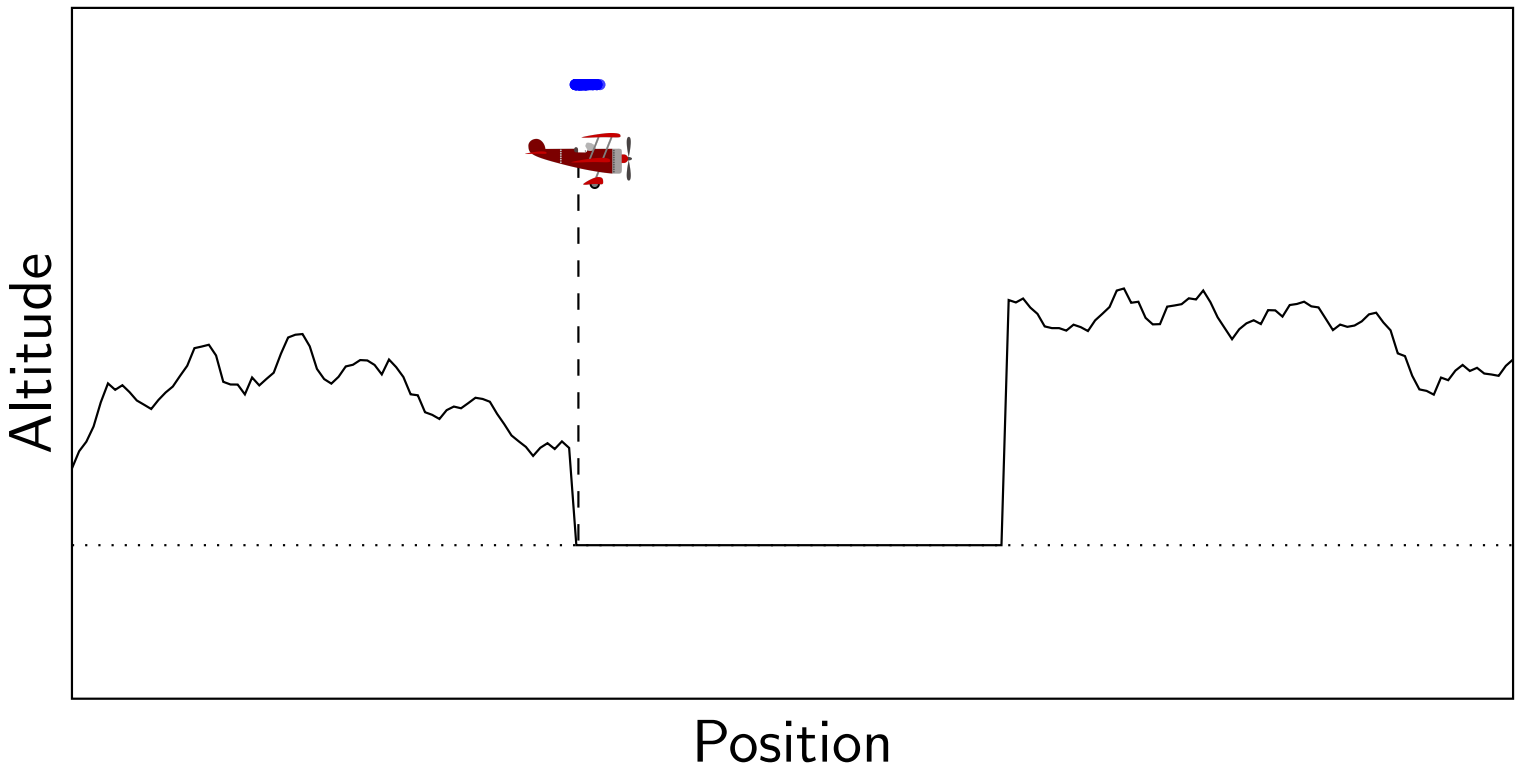
Sequential Monte Carlo inference

Propagate, weigh, resample



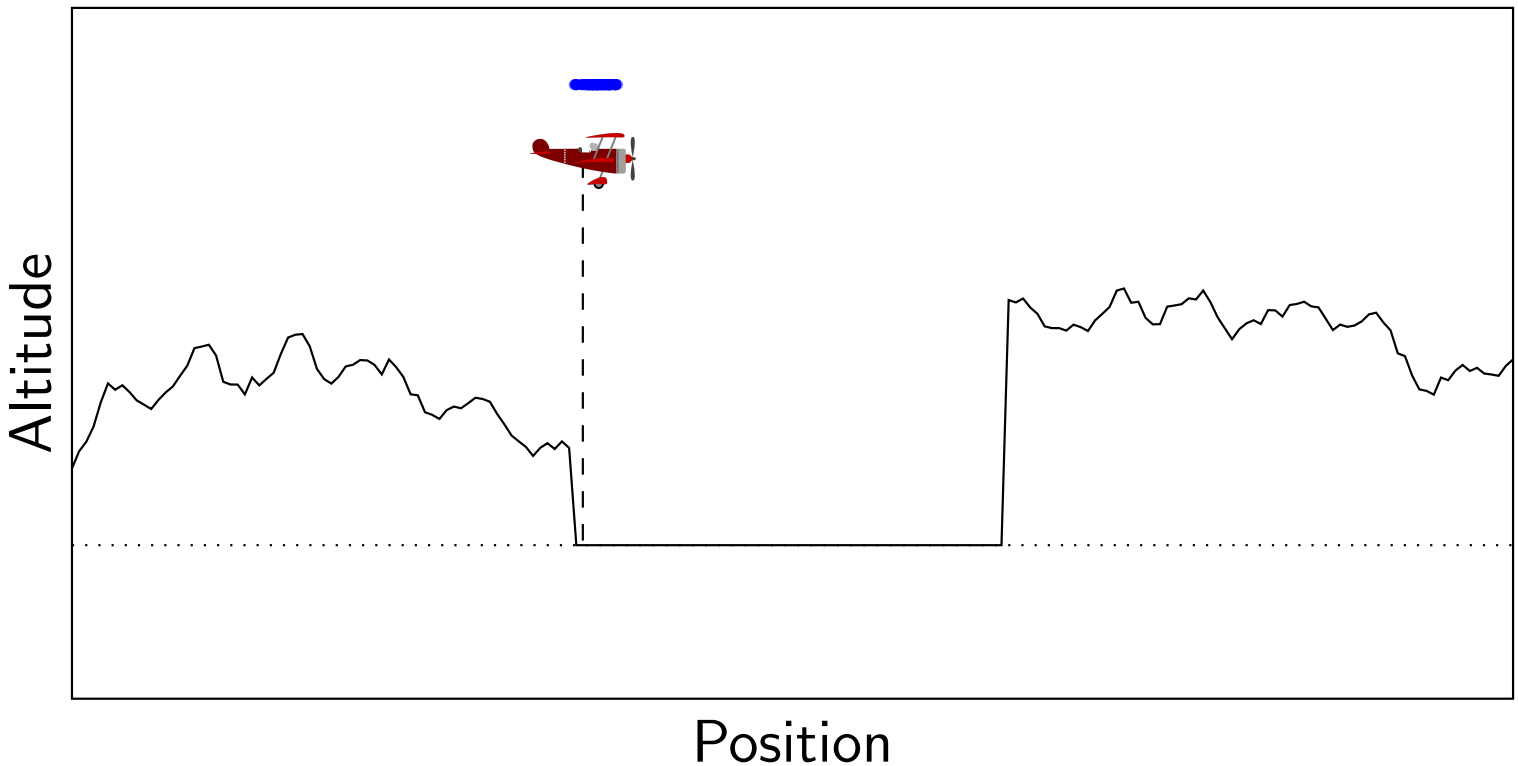
Sequential Monte Carlo inference

Propagate, weigh, resample



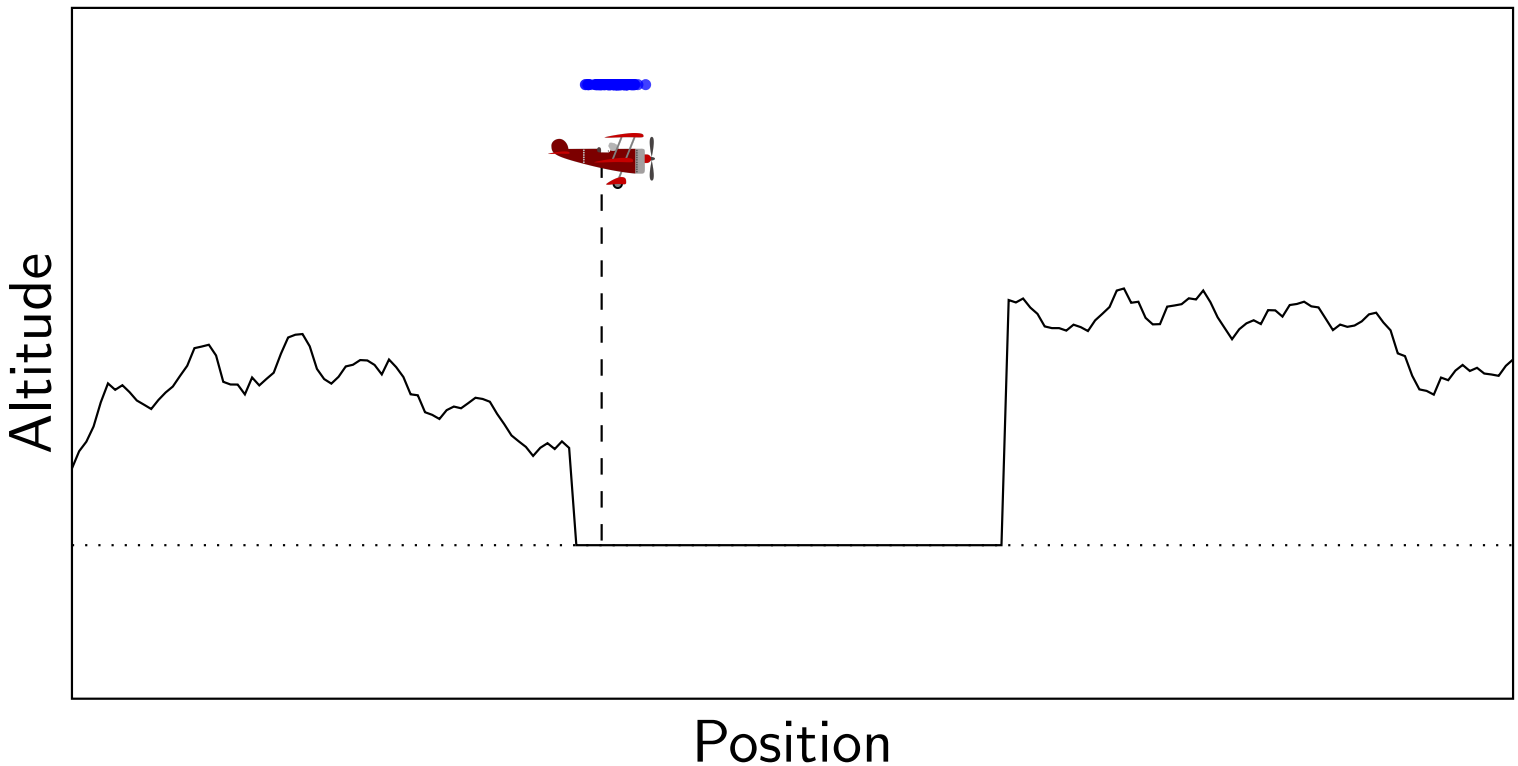
Sequential Monte Carlo inference

Propagate, weigh, resample



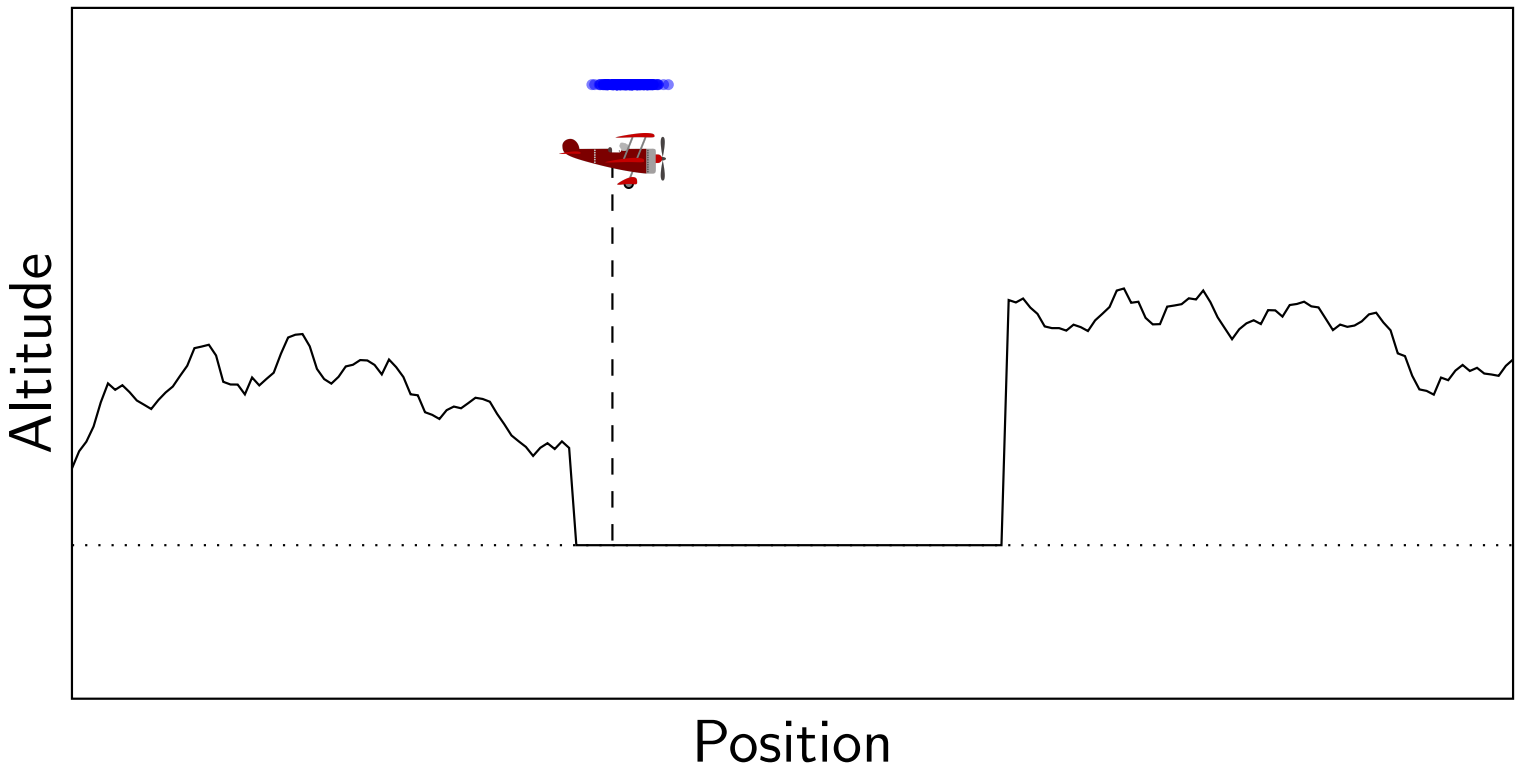
Sequential Monte Carlo inference

Propagate, weigh, resample



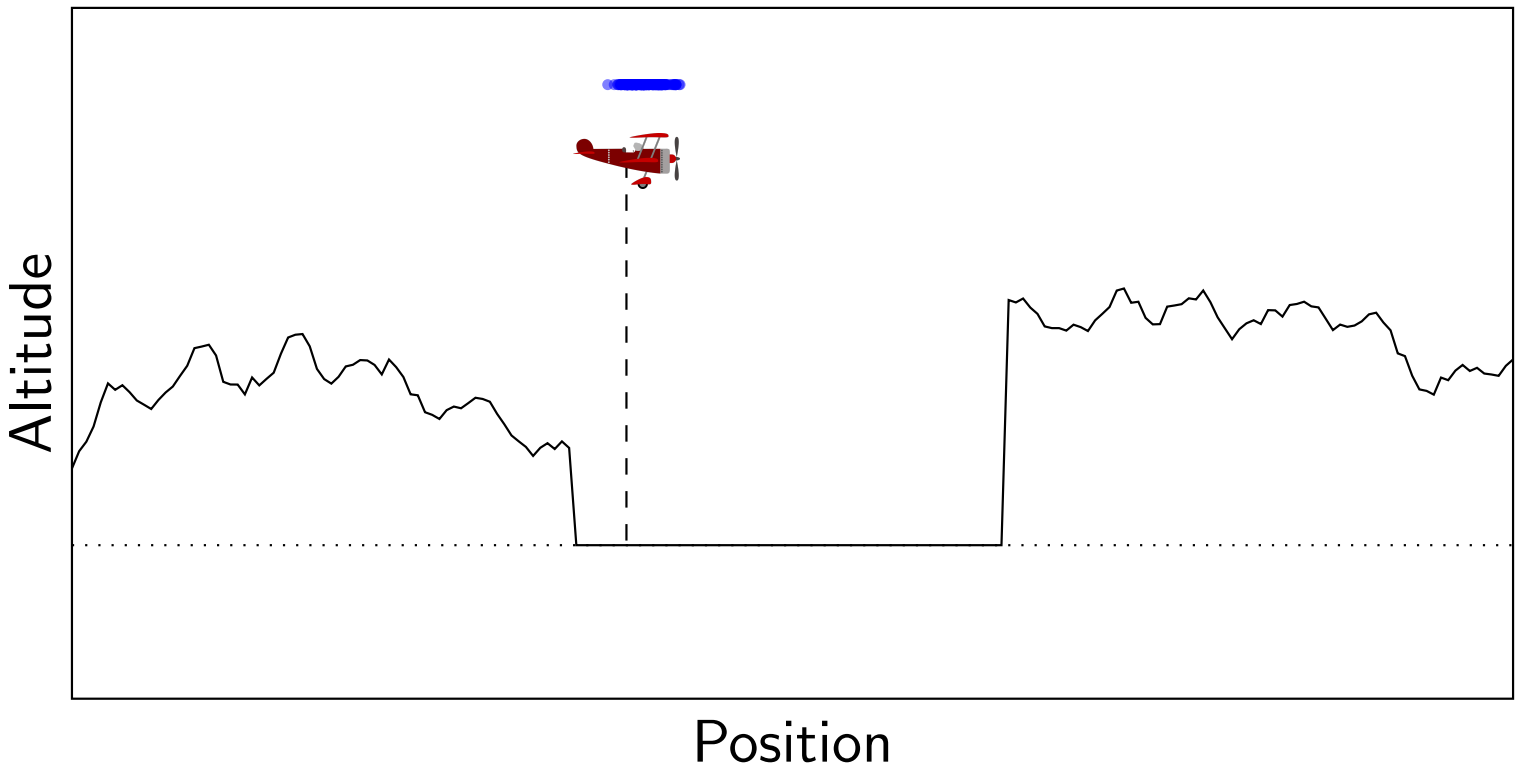
Sequential Monte Carlo inference

Propagate, weigh, resample



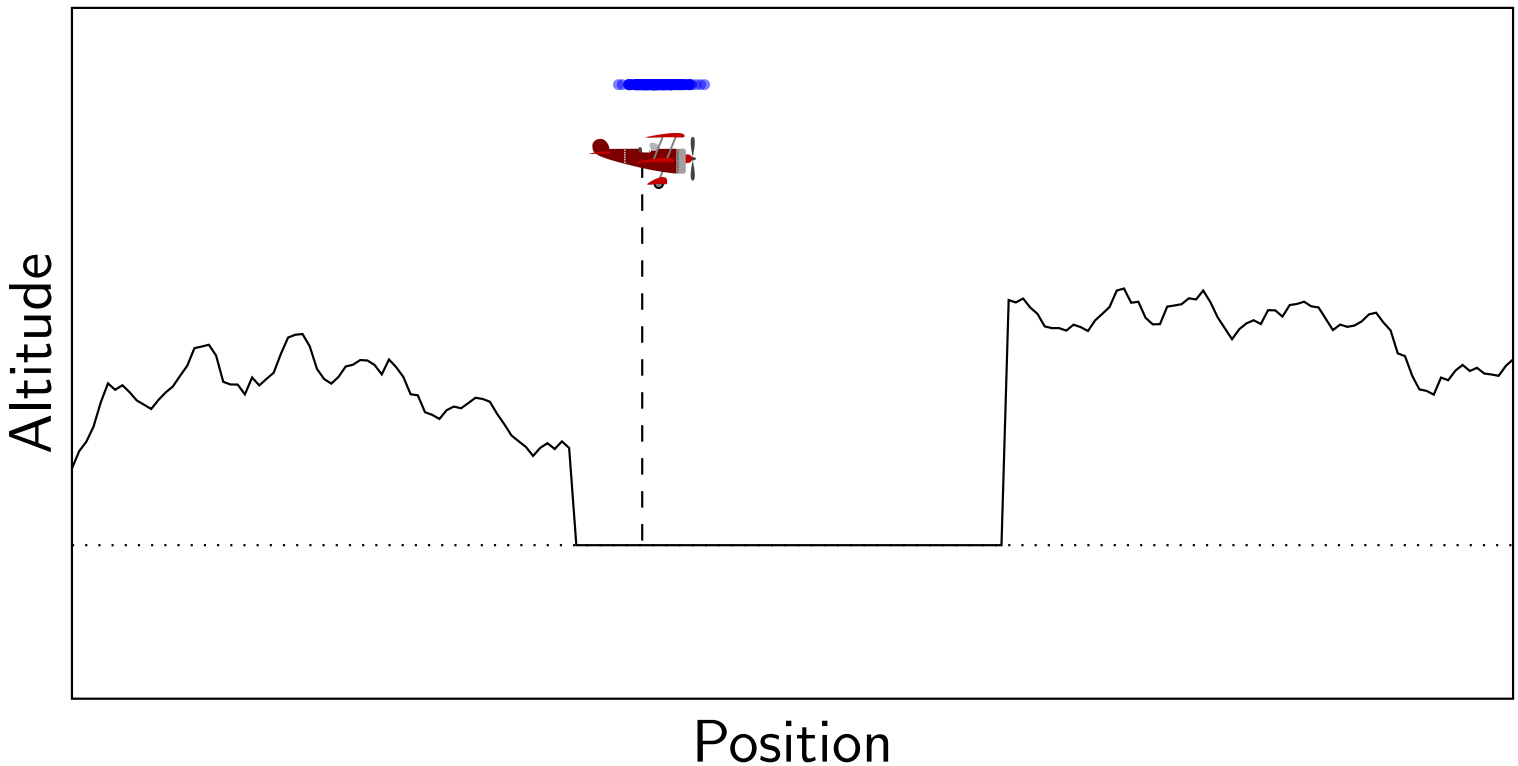
Sequential Monte Carlo inference

Propagate, weigh, resample



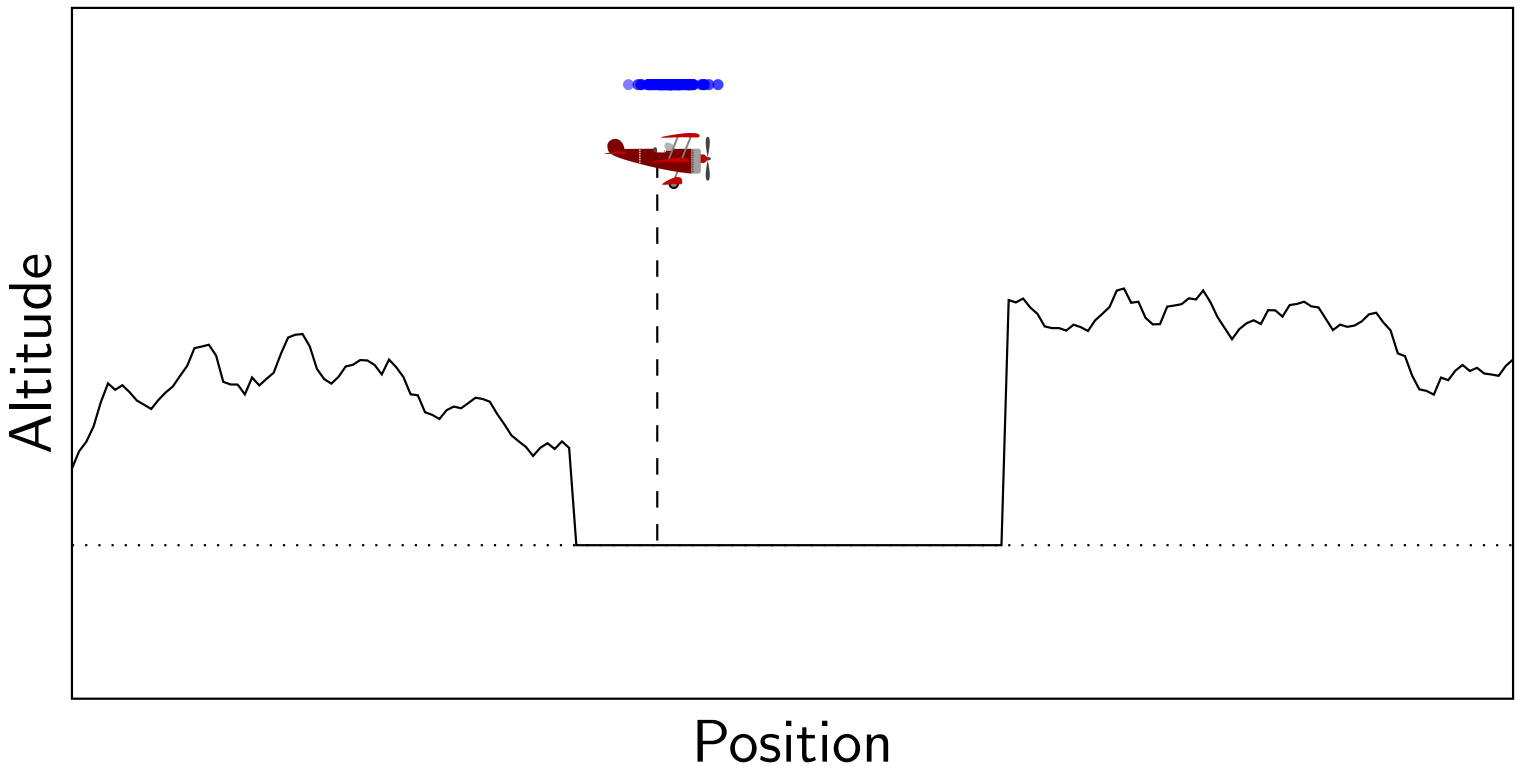
Sequential Monte Carlo inference

Propagate, weigh, resample



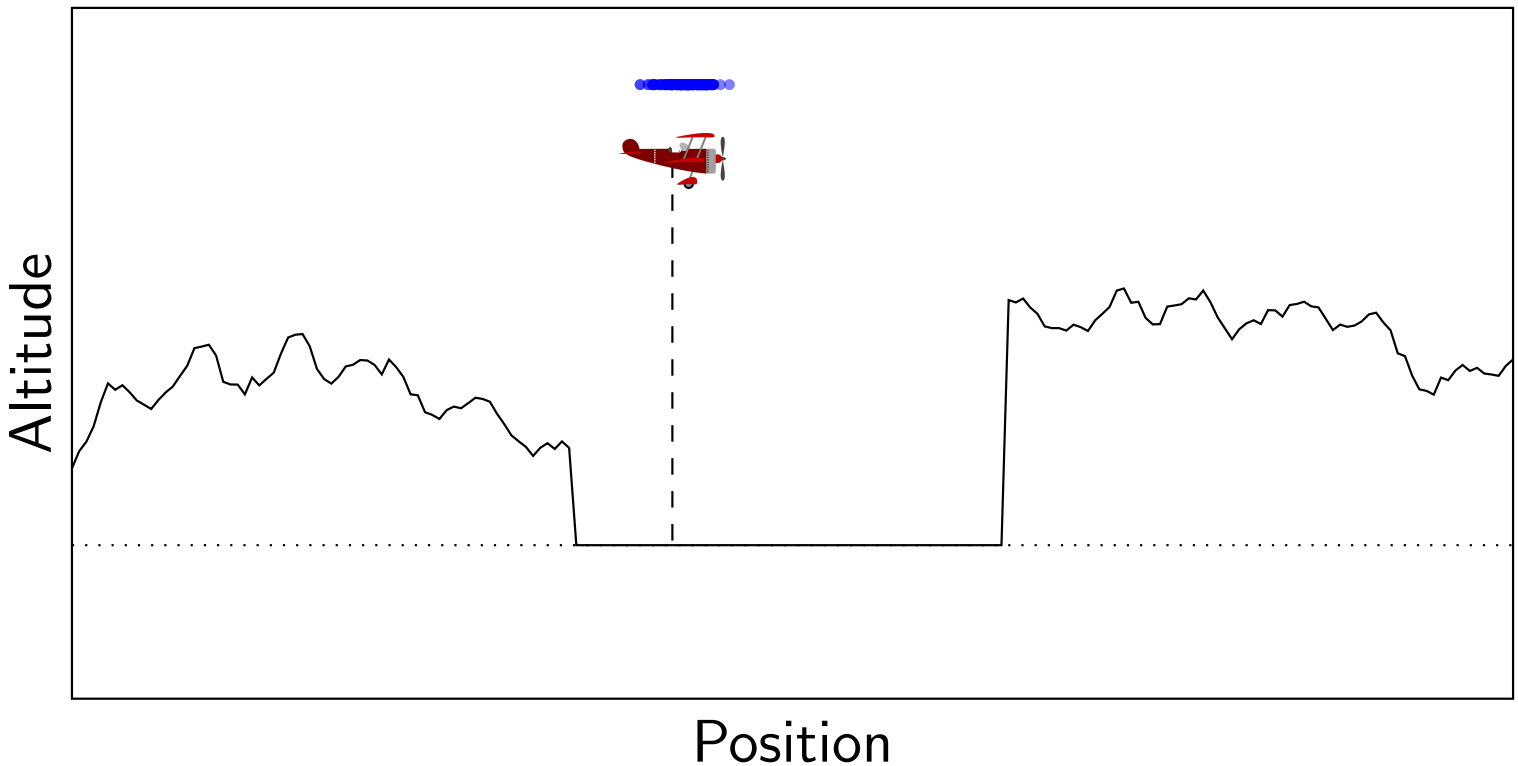
Sequential Monte Carlo inference

Propagate, weigh, resample



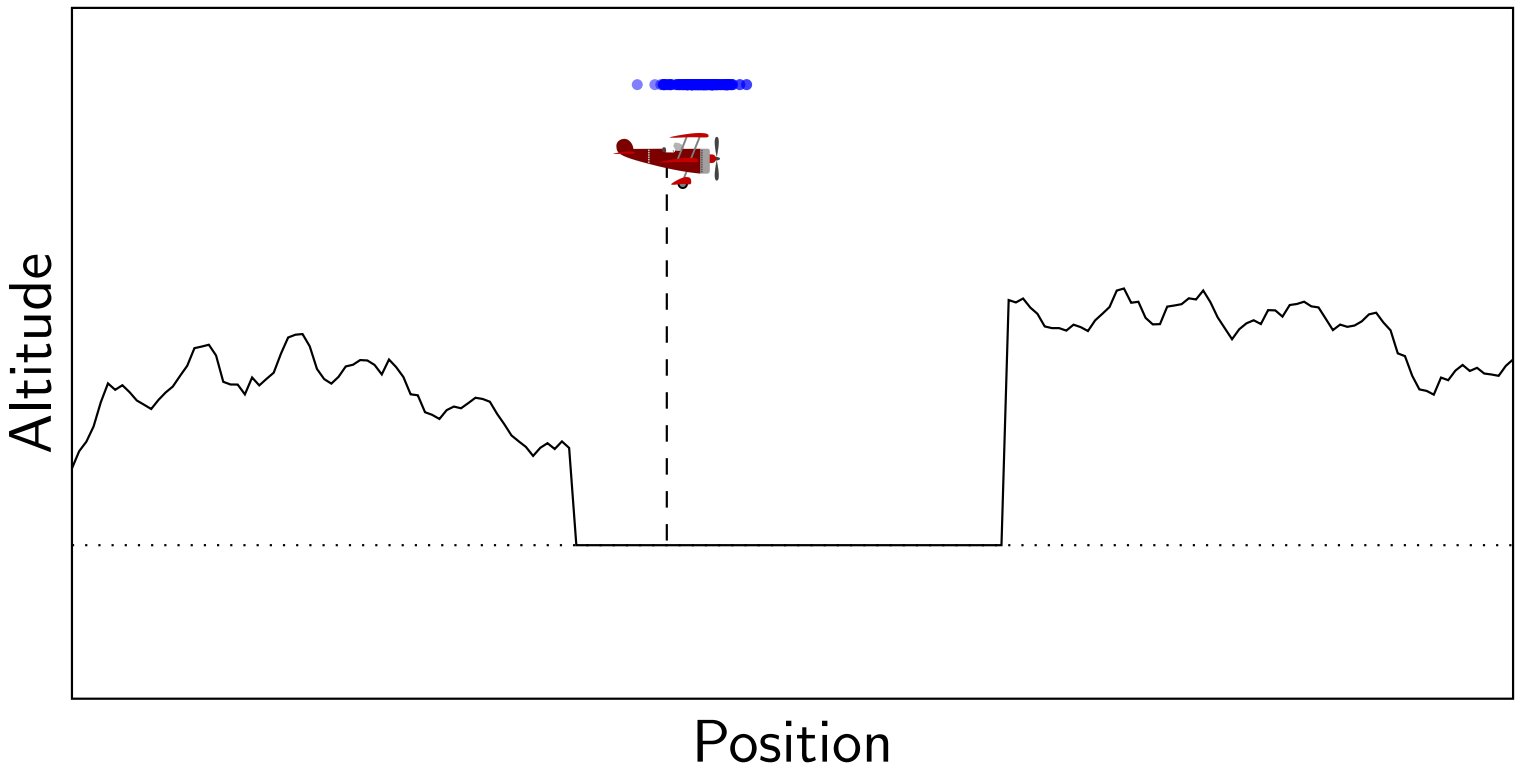
Sequential Monte Carlo inference

Propagate, weigh, resample



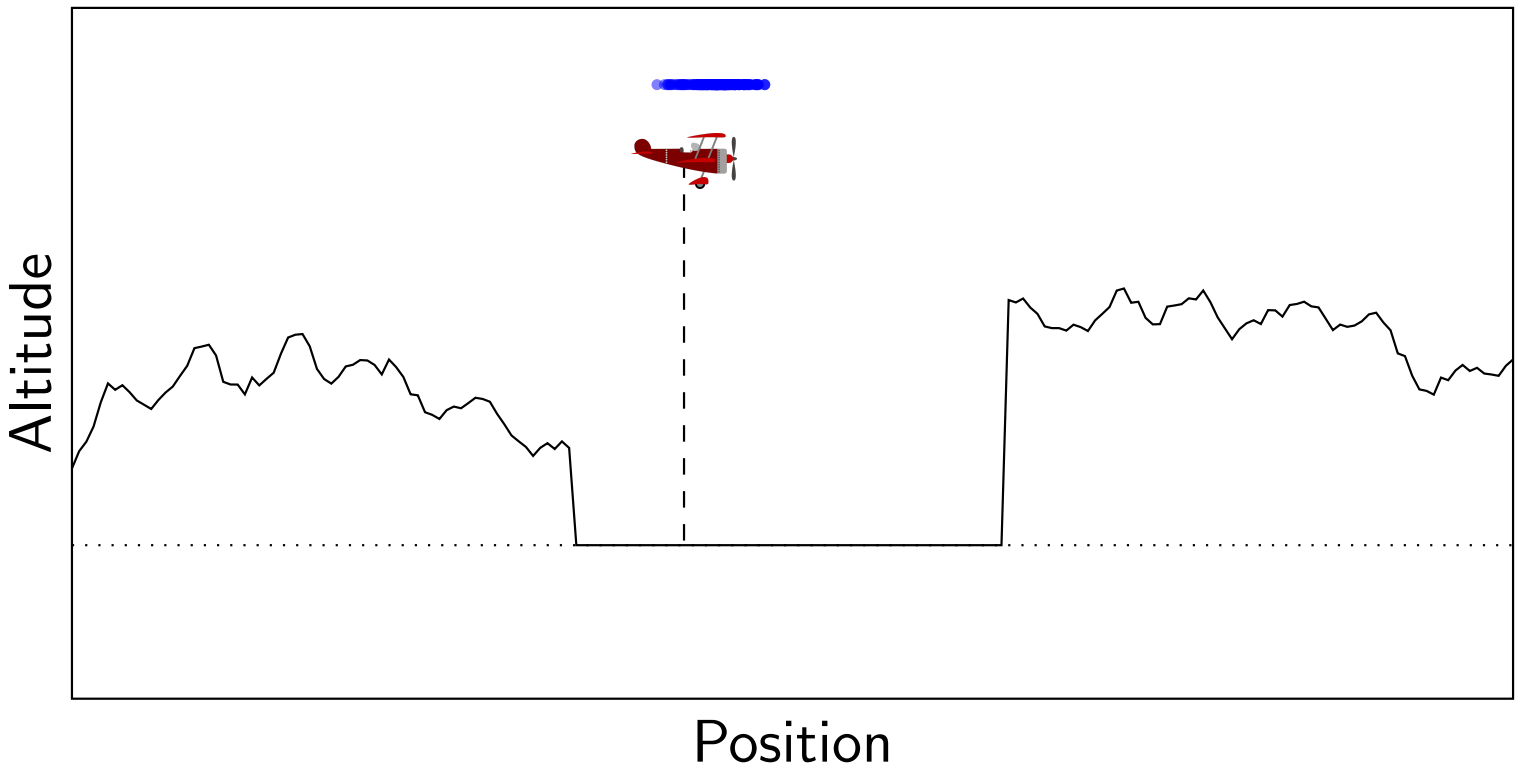
Sequential Monte Carlo inference

Propagate, weigh, resample



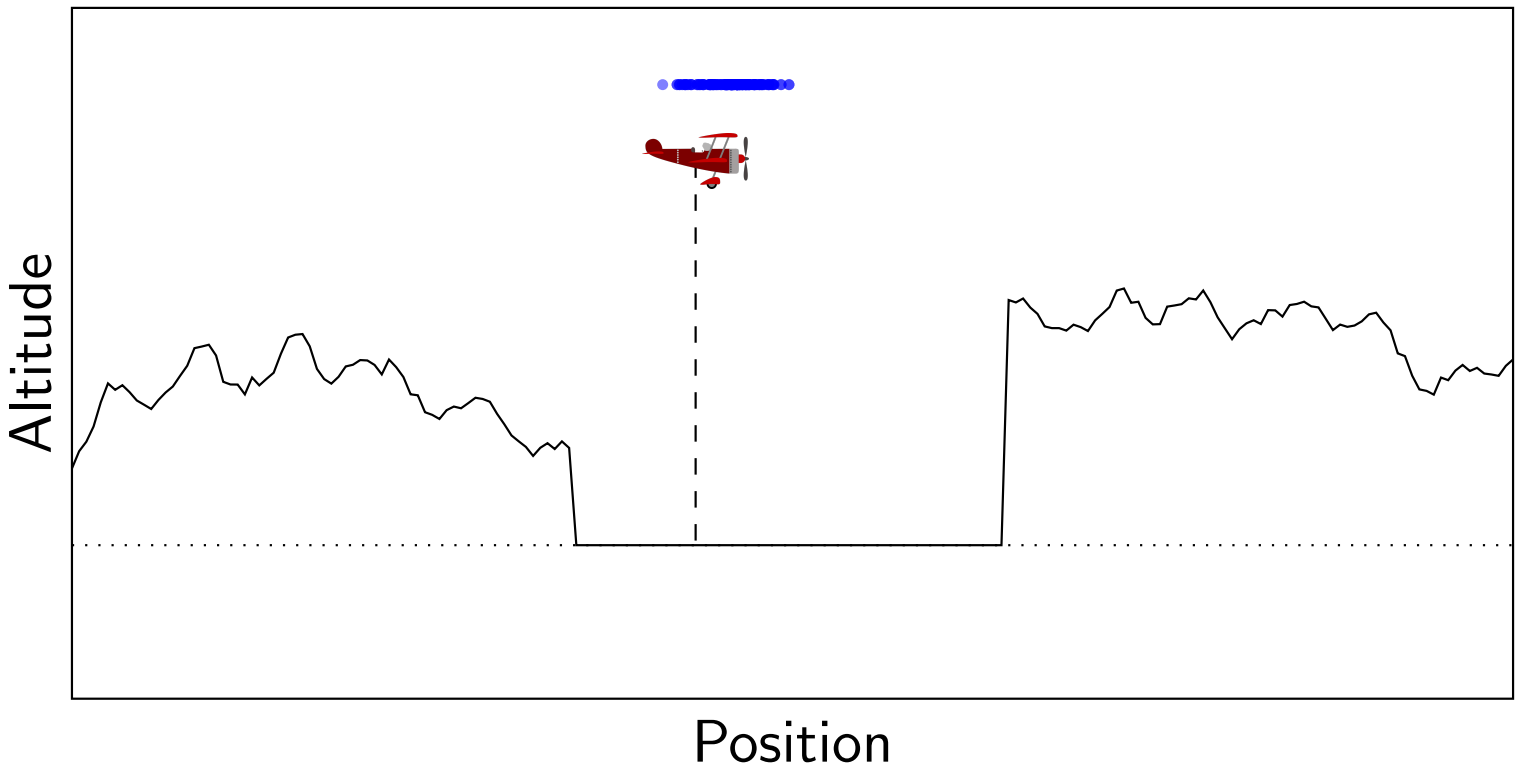
Sequential Monte Carlo inference

Propagate, weigh, resample



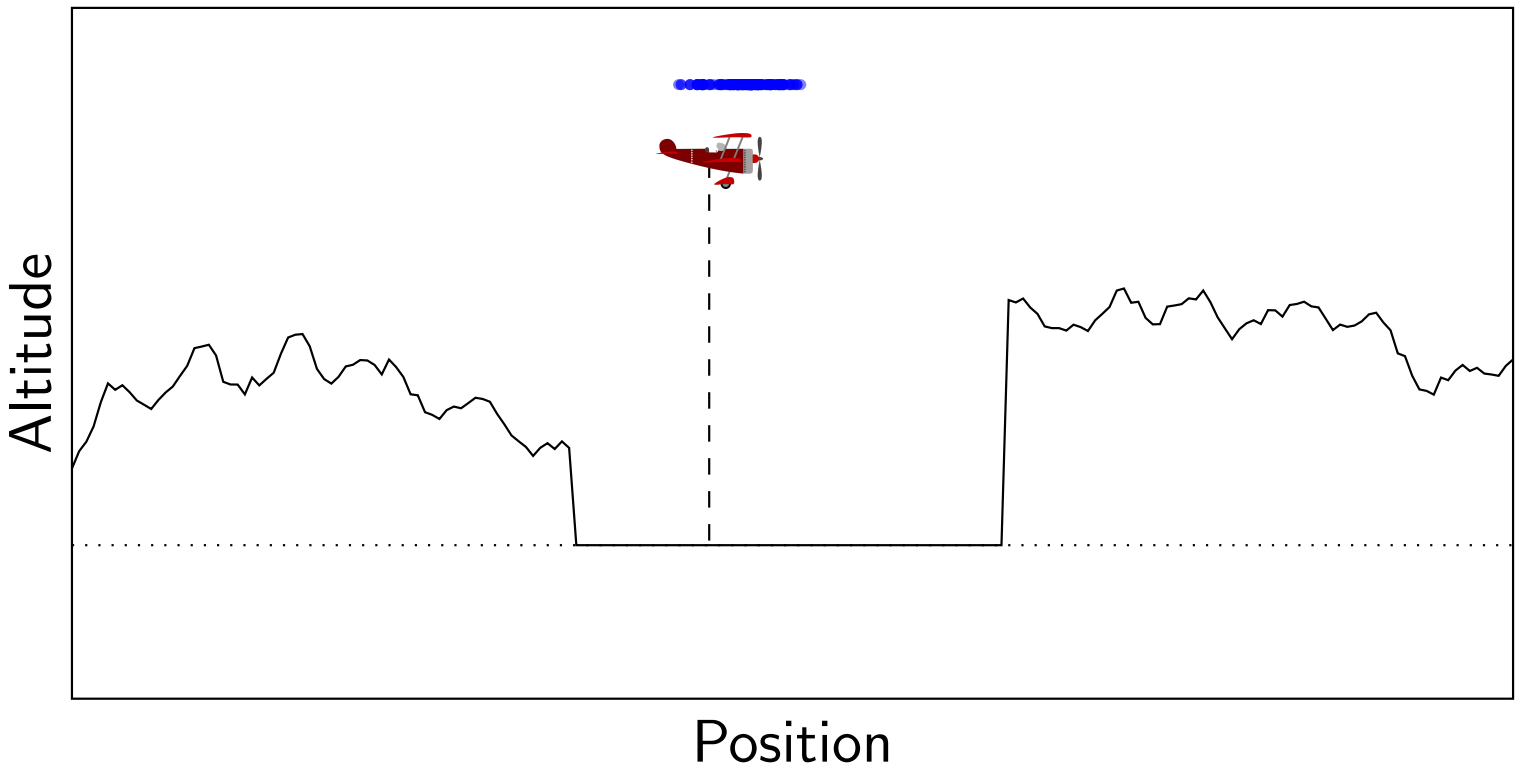
Sequential Monte Carlo inference

Propagate, weigh, resample



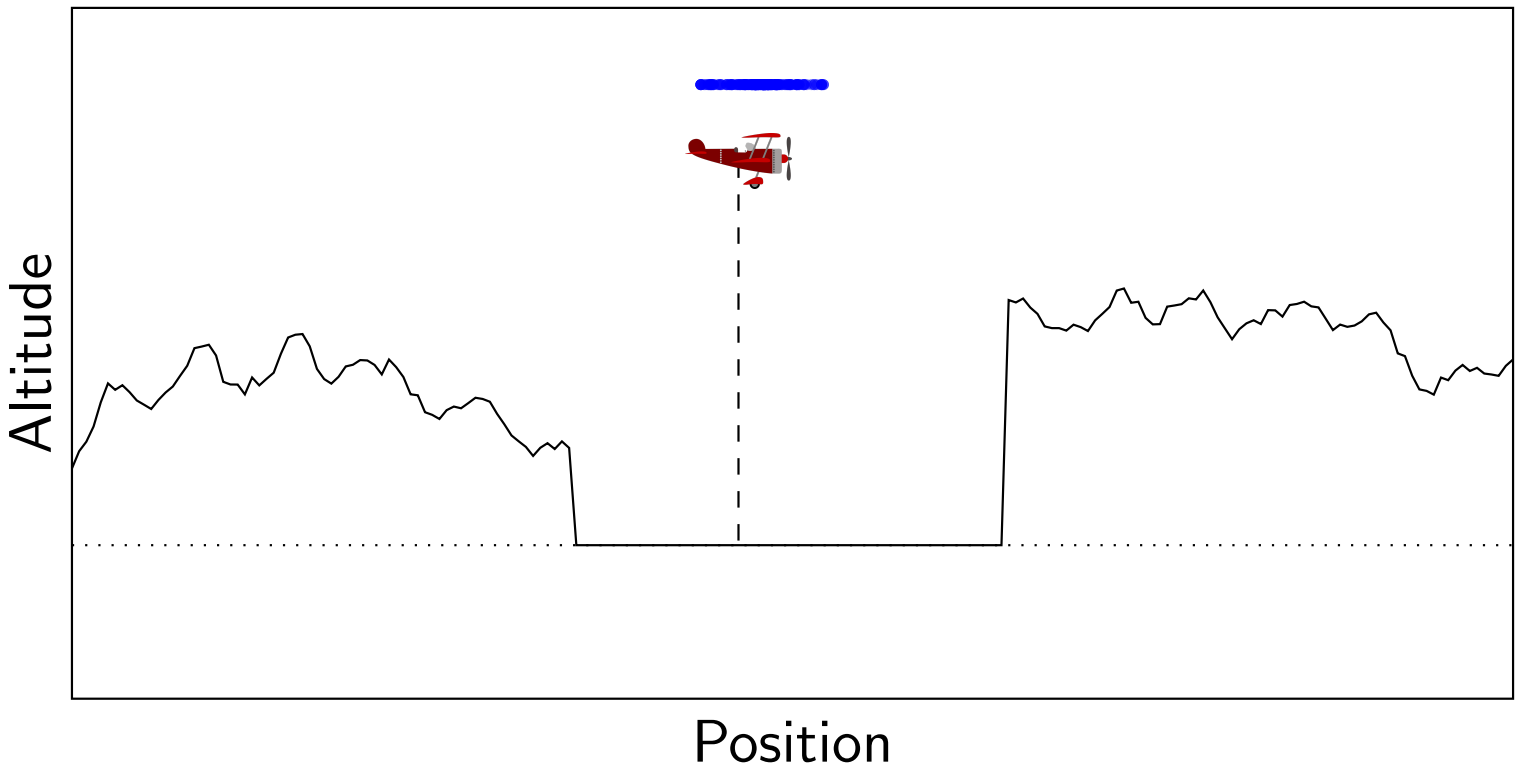
Sequential Monte Carlo inference

Propagate, weigh, resample



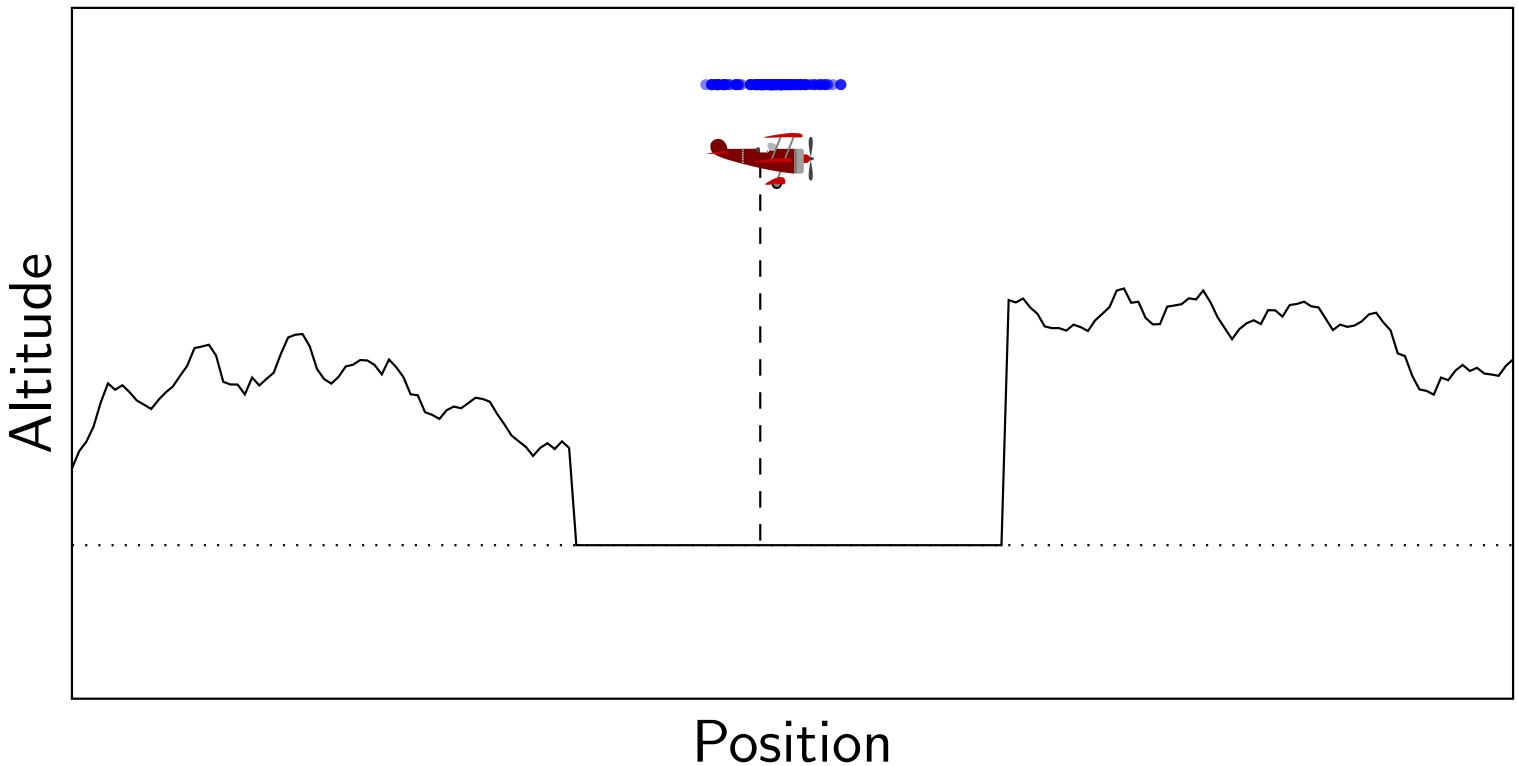
Sequential Monte Carlo inference

Propagate, weigh, resample



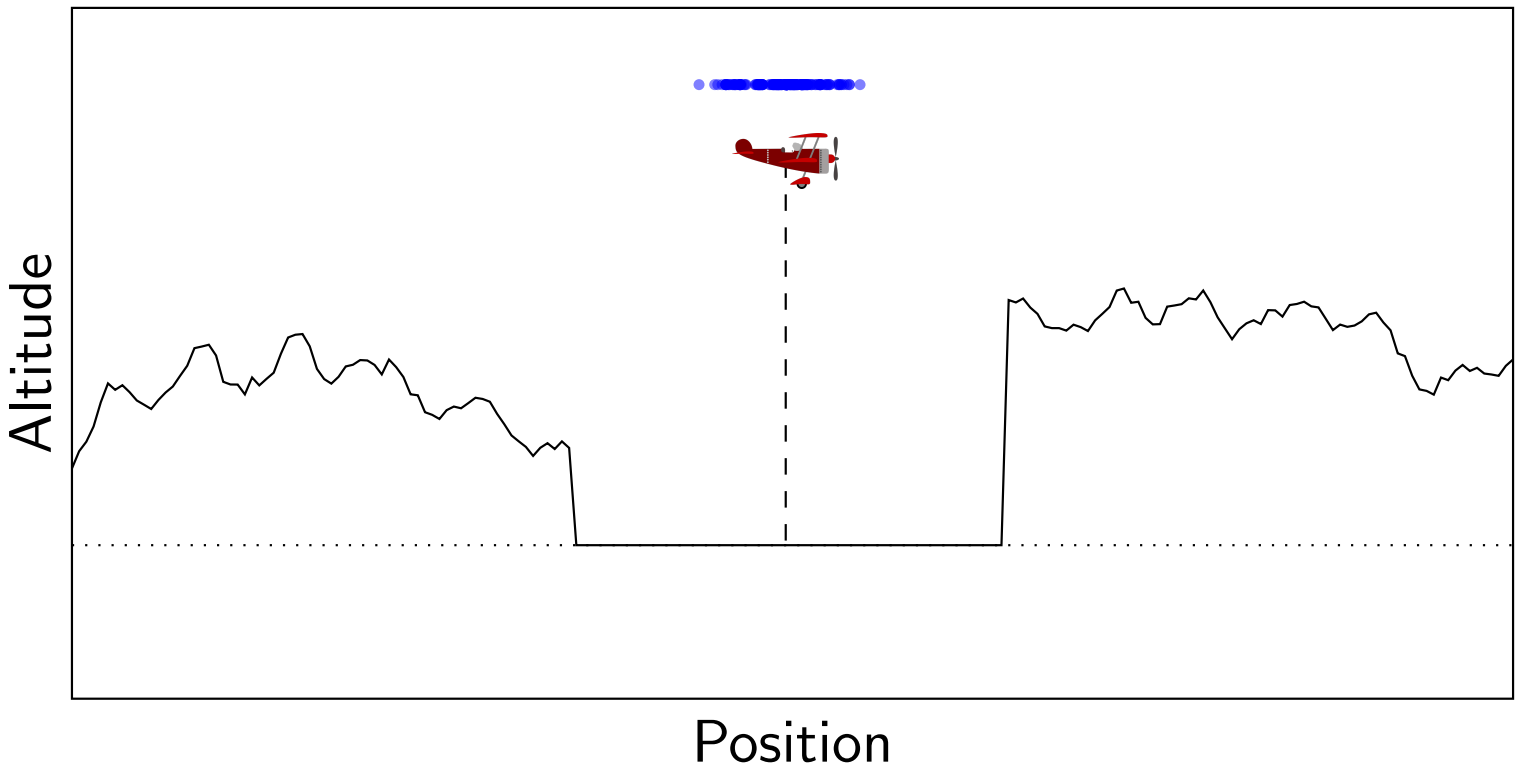
Sequential Monte Carlo inference

Propagate, weigh, resample



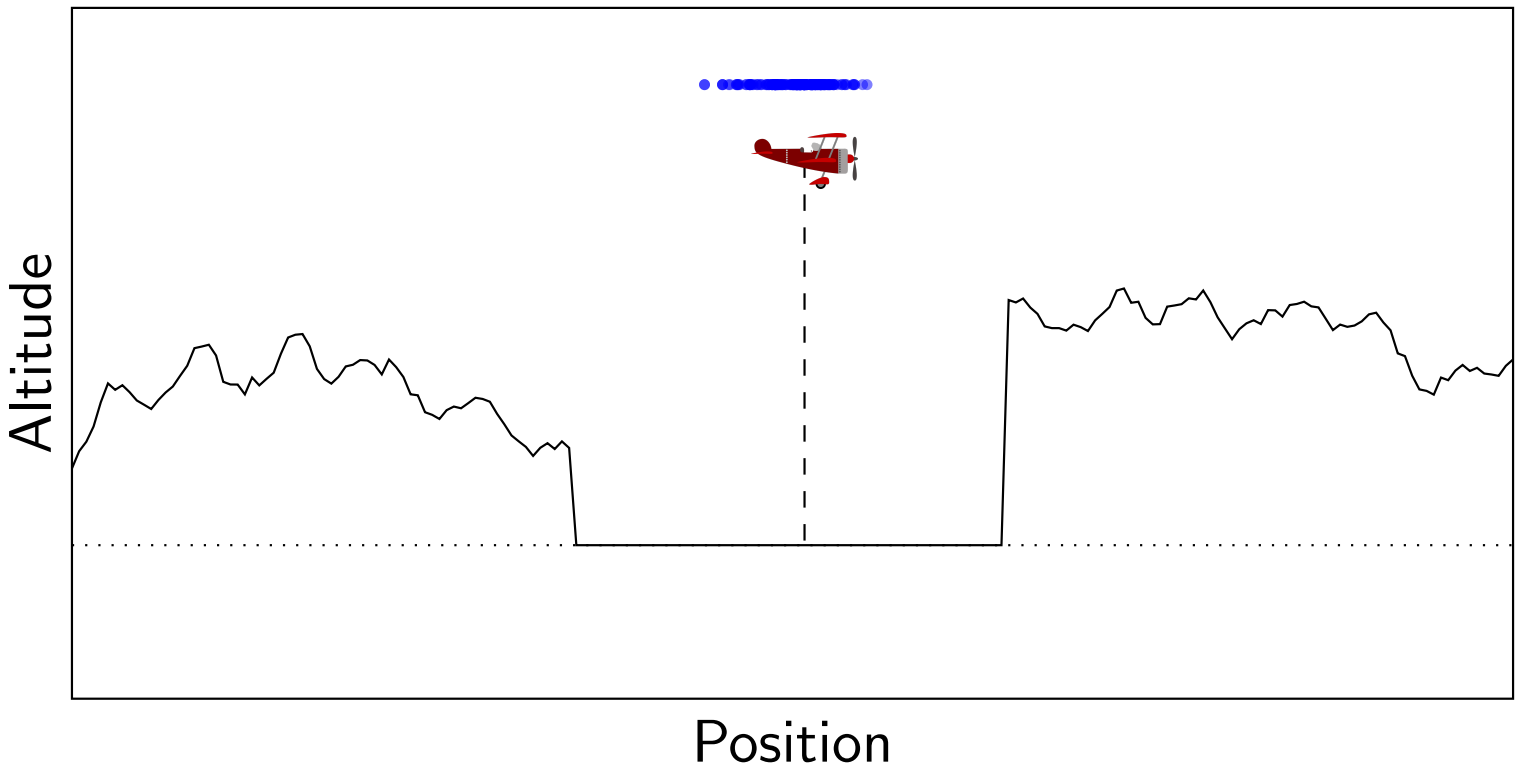
Sequential Monte Carlo inference

Propagate, weigh, resample



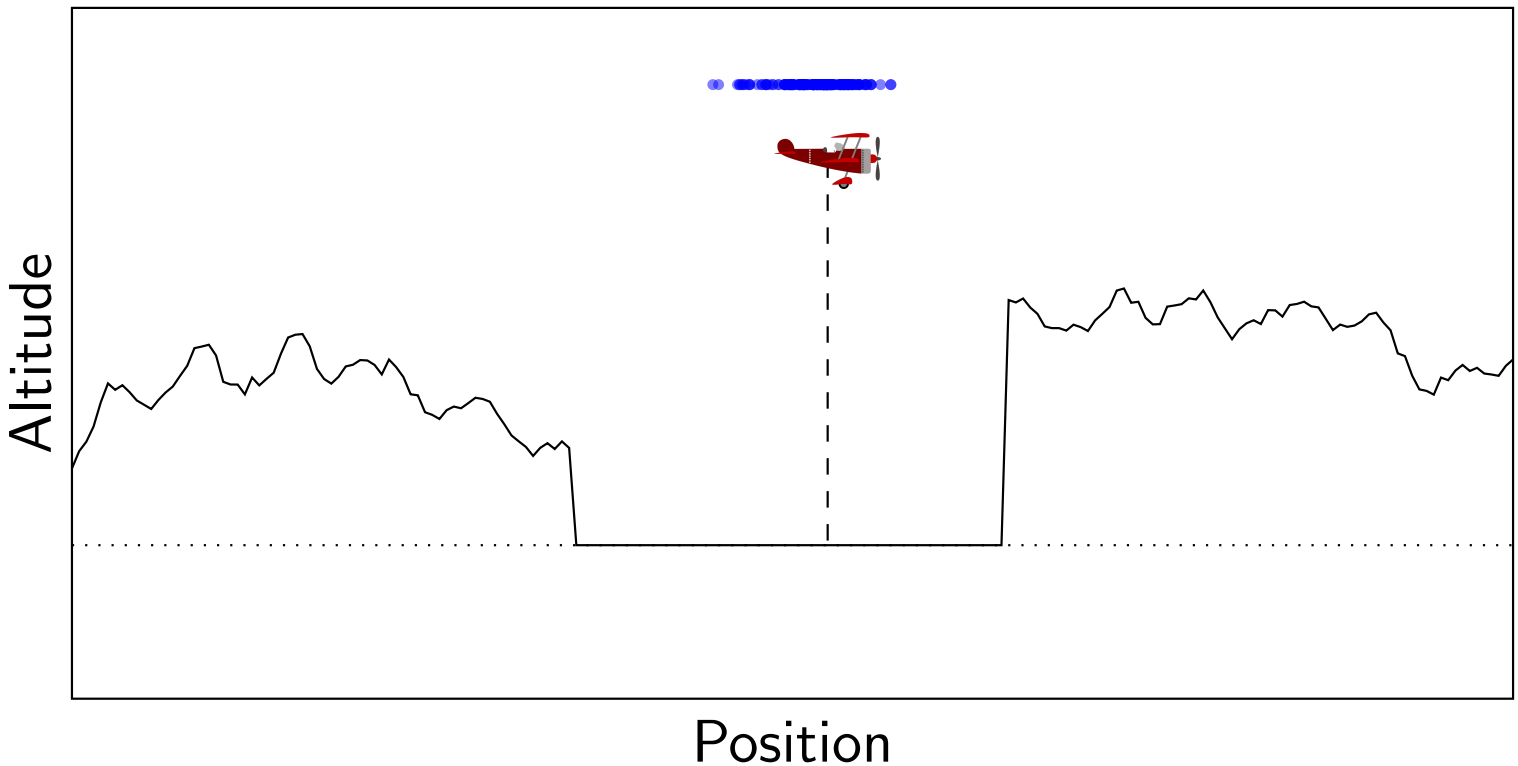
Sequential Monte Carlo inference

Propagate, weigh, resample



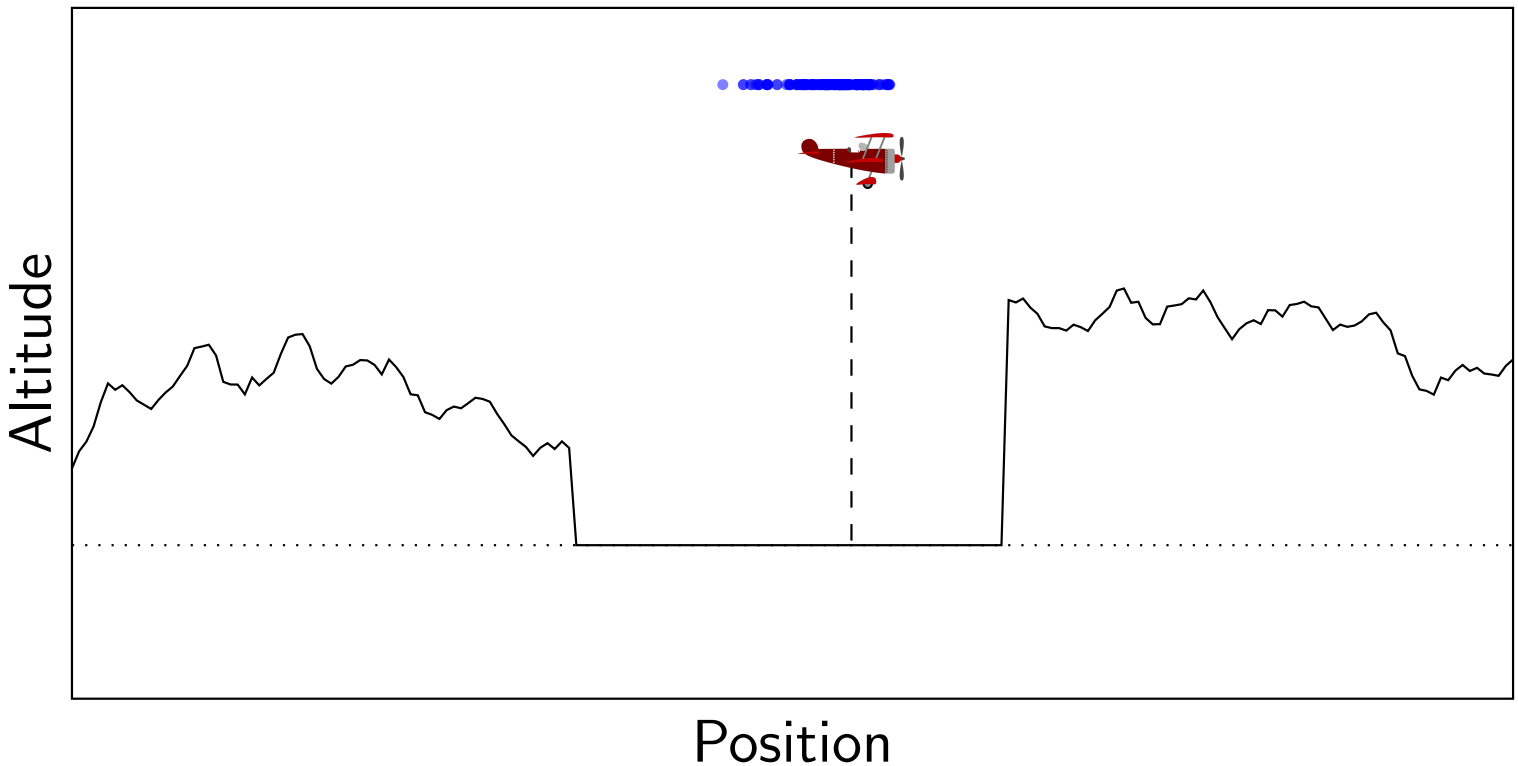
Sequential Monte Carlo inference

Propagate, weigh, resample



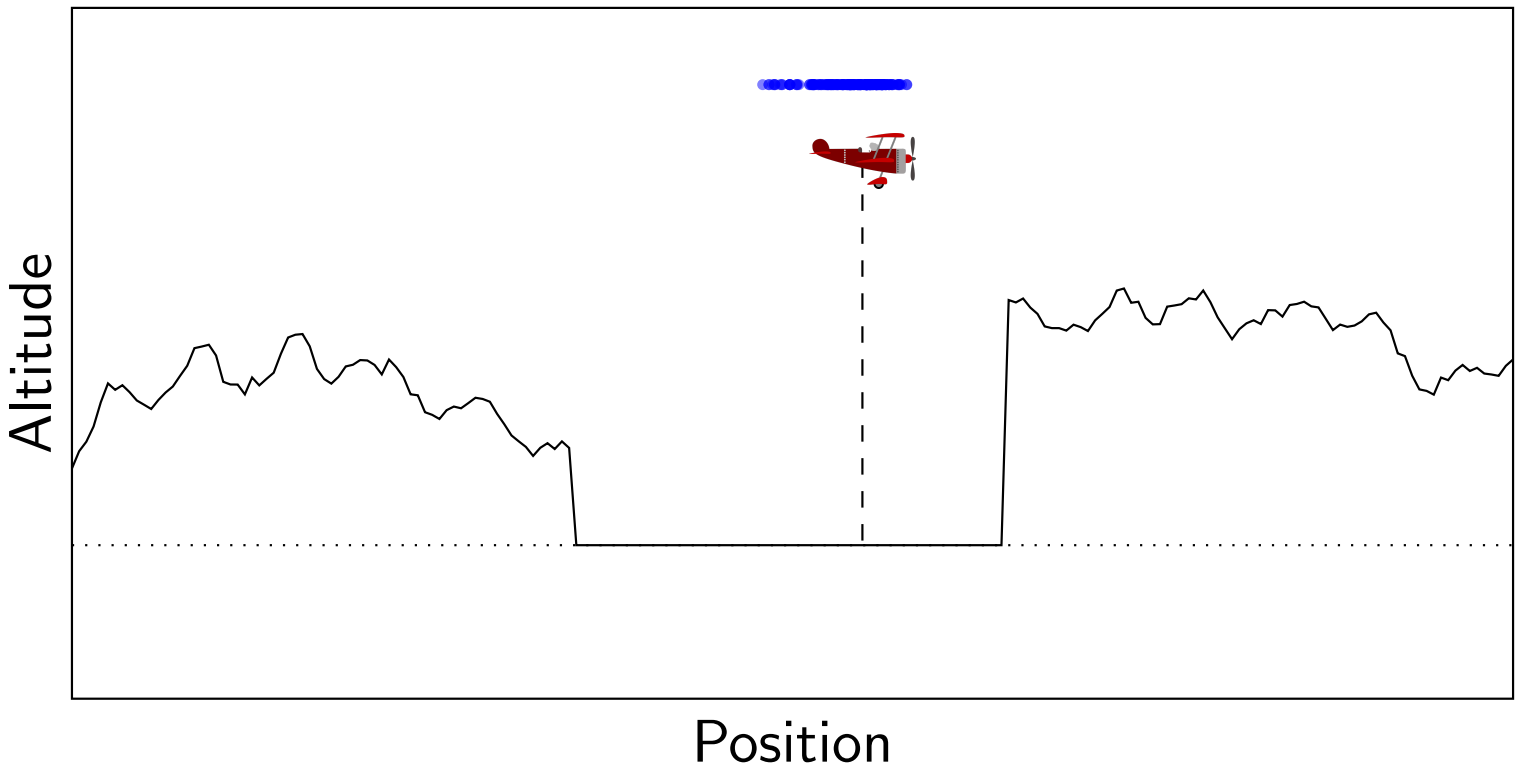
Sequential Monte Carlo inference

Propagate, weigh, resample



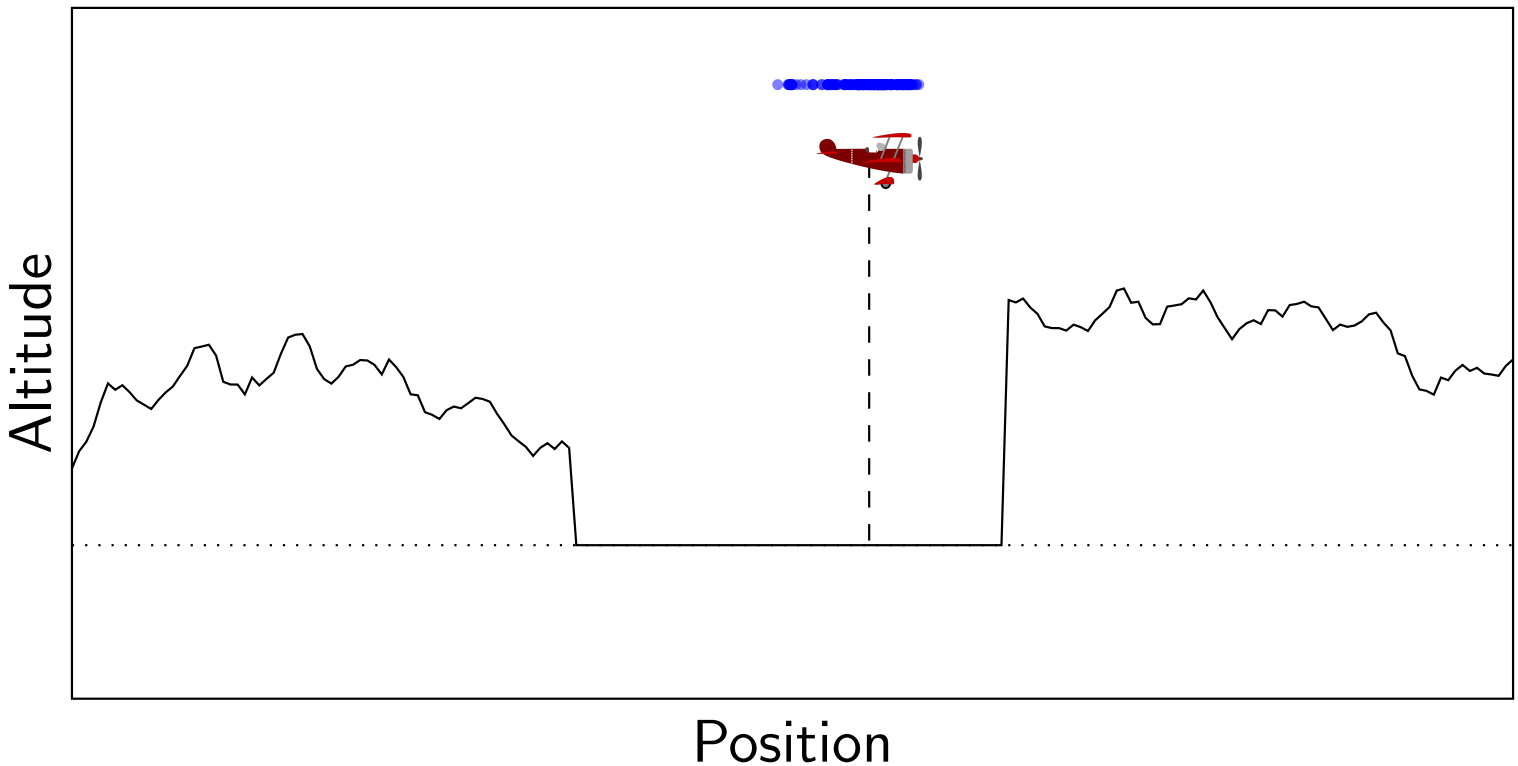
Sequential Monte Carlo inference

Propagate, weigh, resample



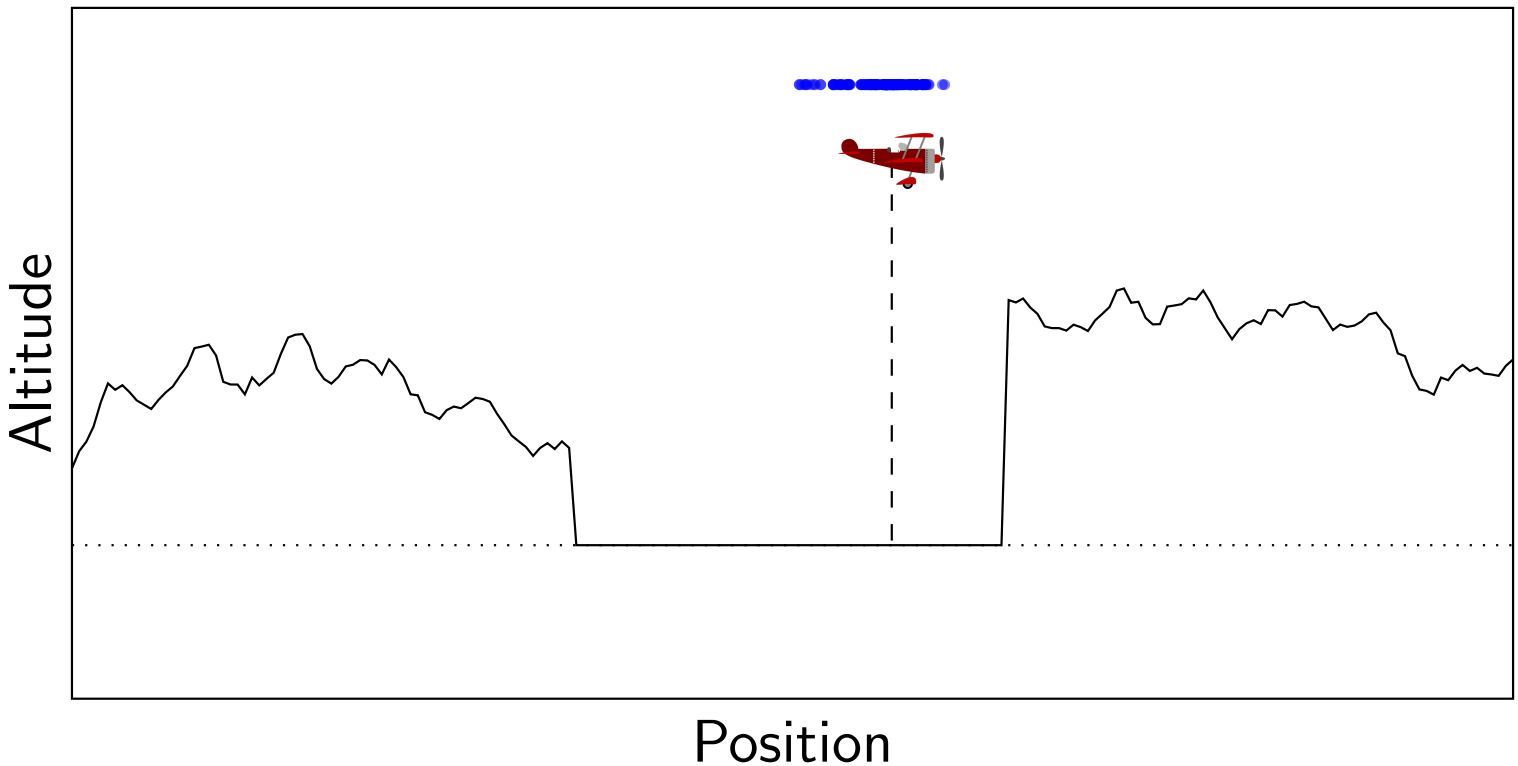
Sequential Monte Carlo inference

Propagate, weigh, resample



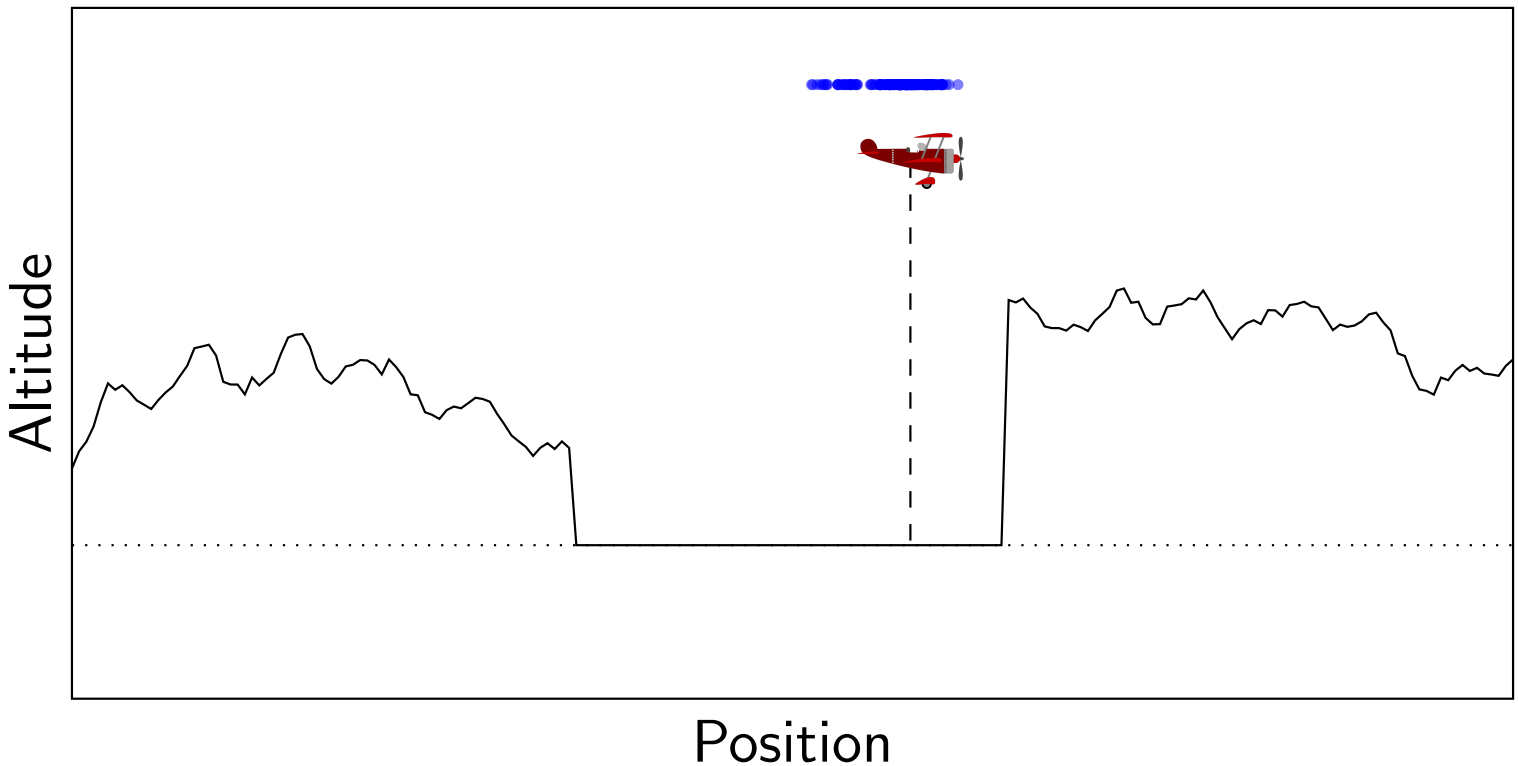
Sequential Monte Carlo inference

Propagate, weigh, resample



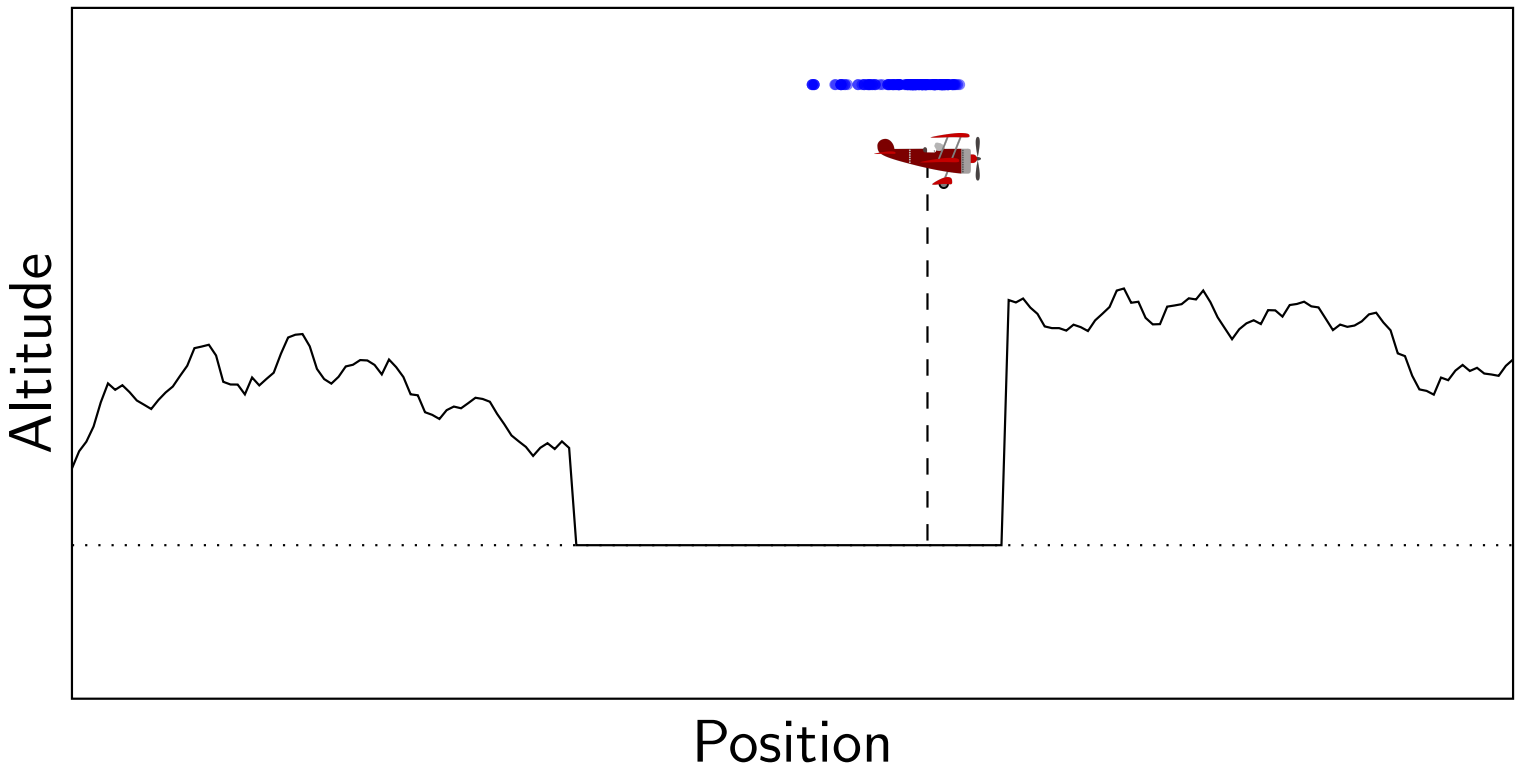
Sequential Monte Carlo inference

Propagate, weigh, resample



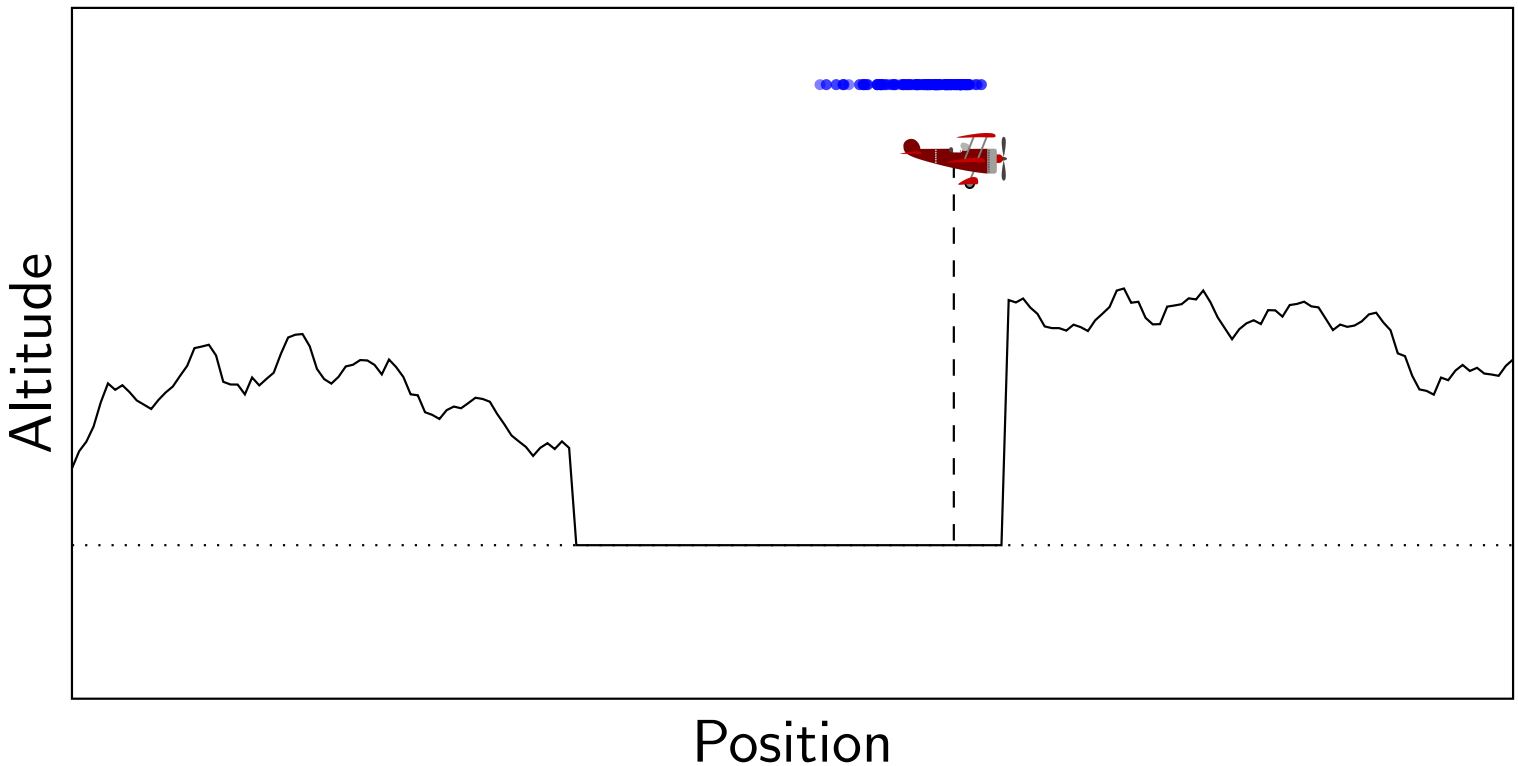
Sequential Monte Carlo inference

Propagate, weigh, resample



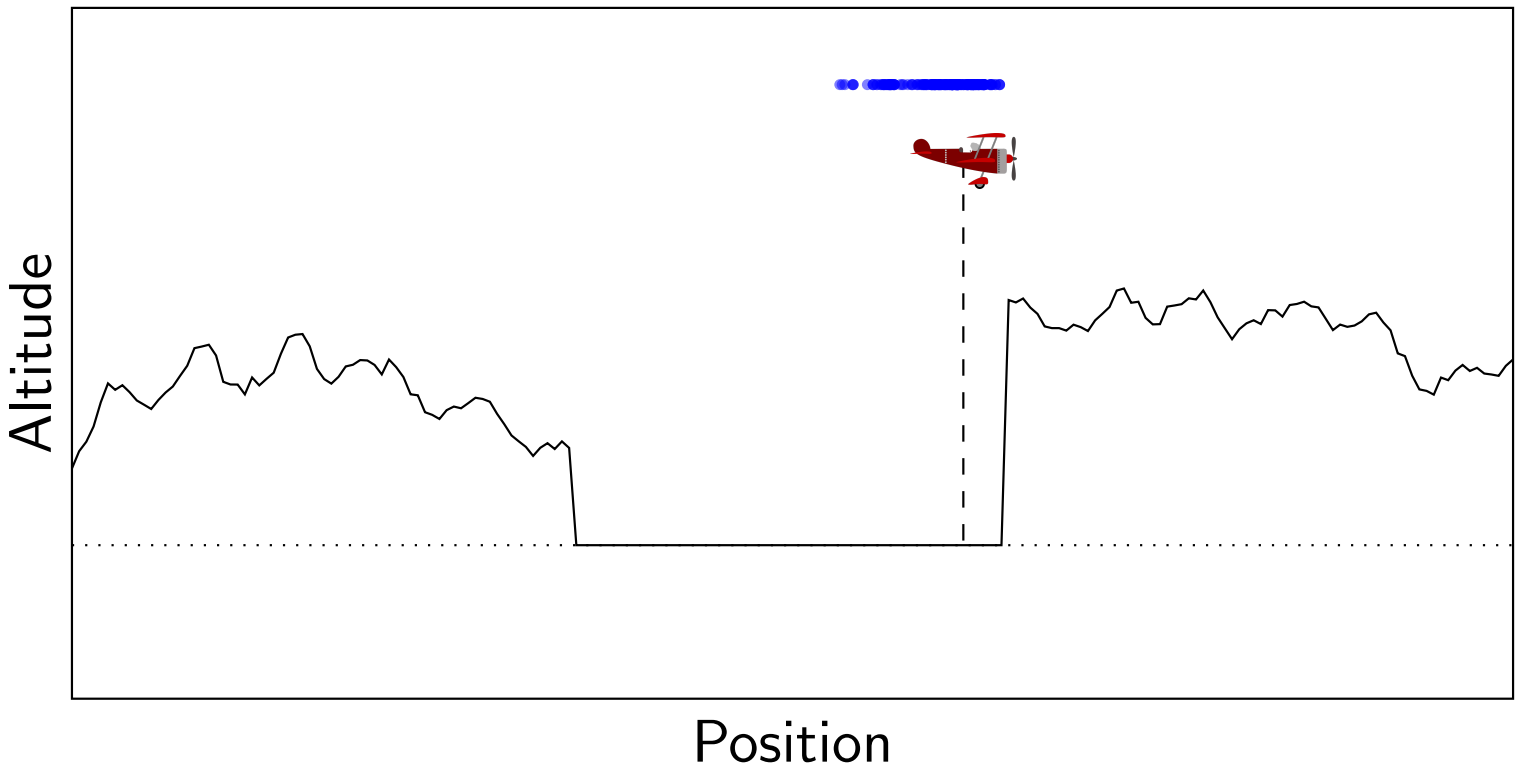
Sequential Monte Carlo inference

Propagate, weigh, resample



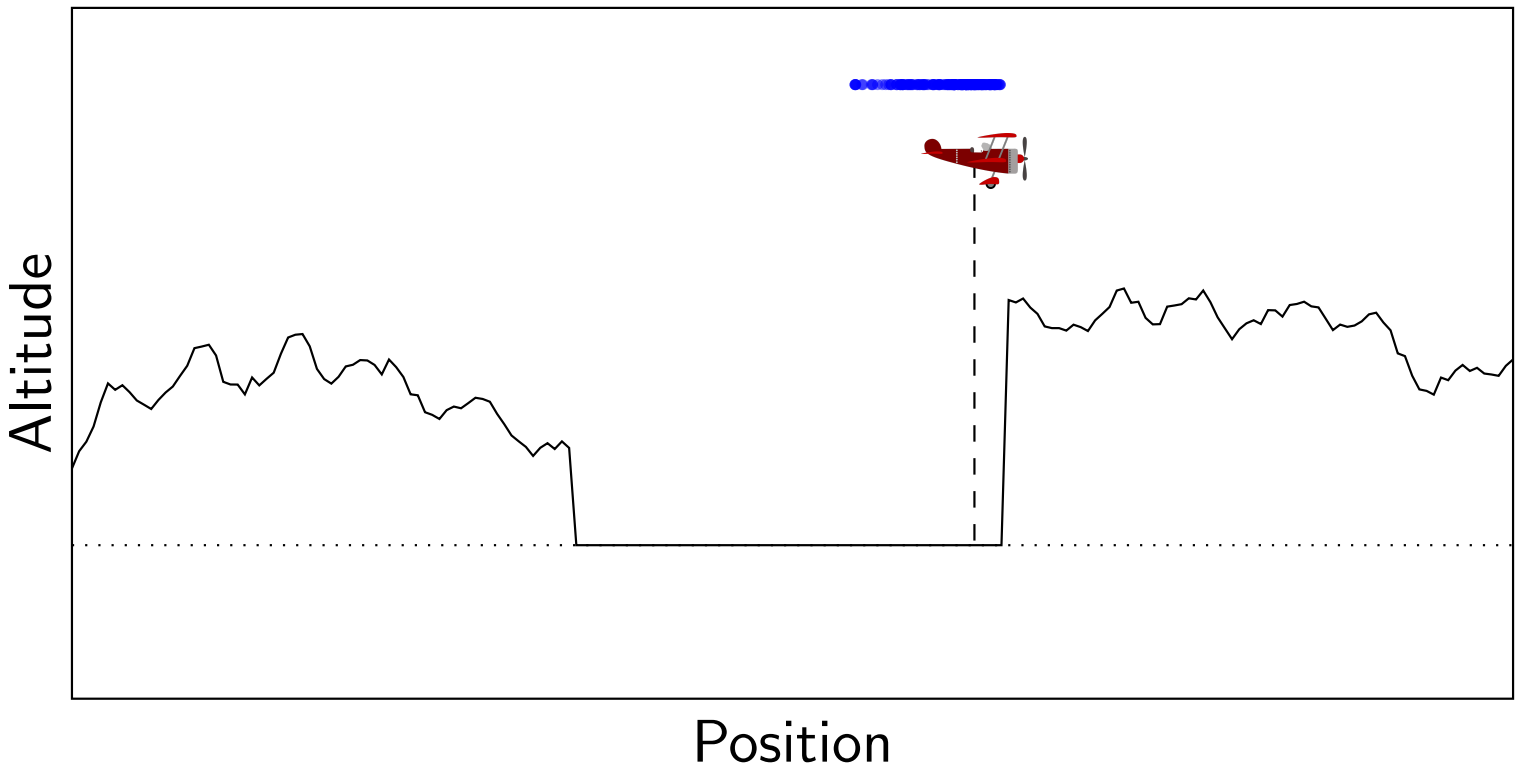
Sequential Monte Carlo inference

Propagate, weigh, resample



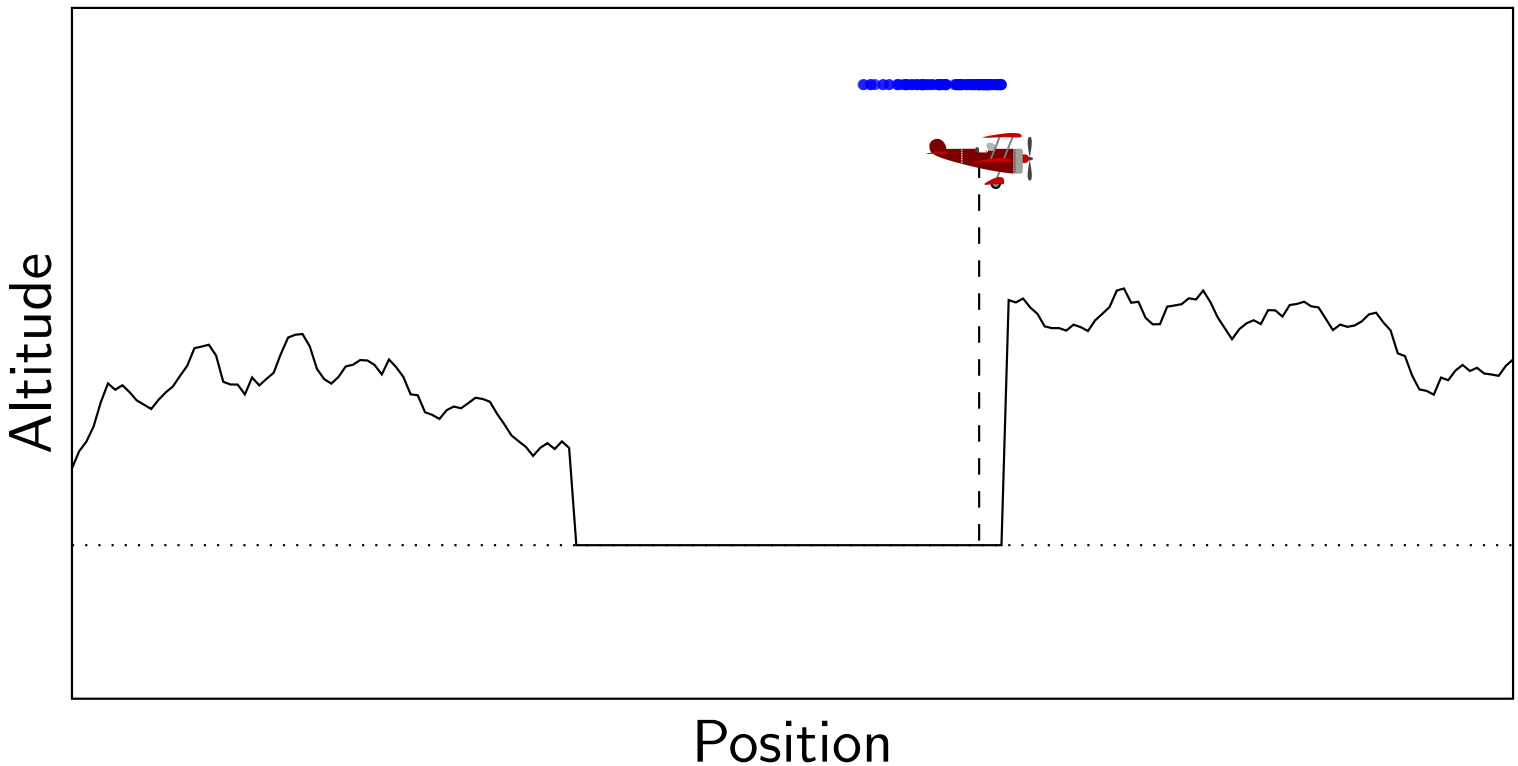
Sequential Monte Carlo inference

Propagate, weigh, resample



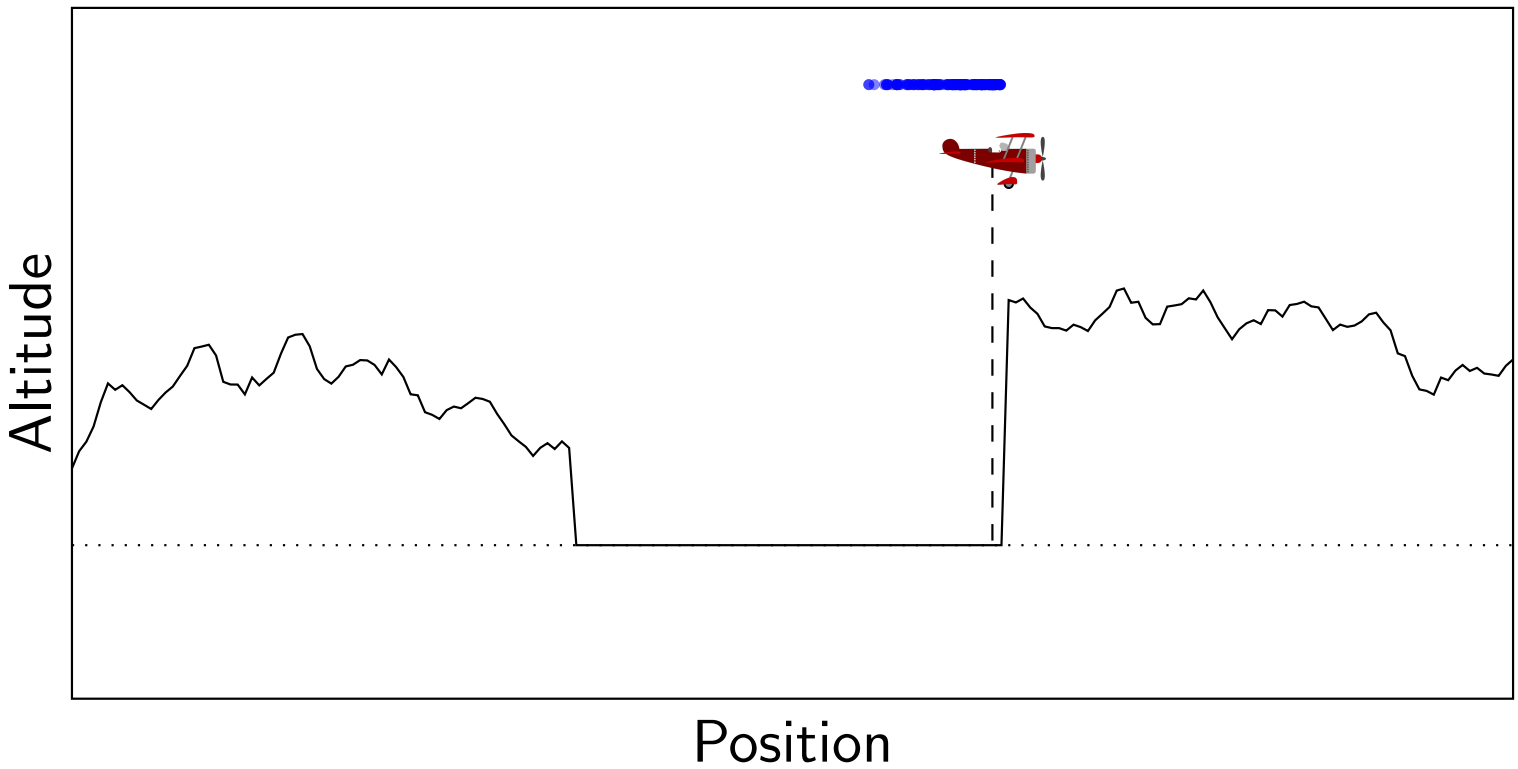
Sequential Monte Carlo inference

Propagate, weigh, resample



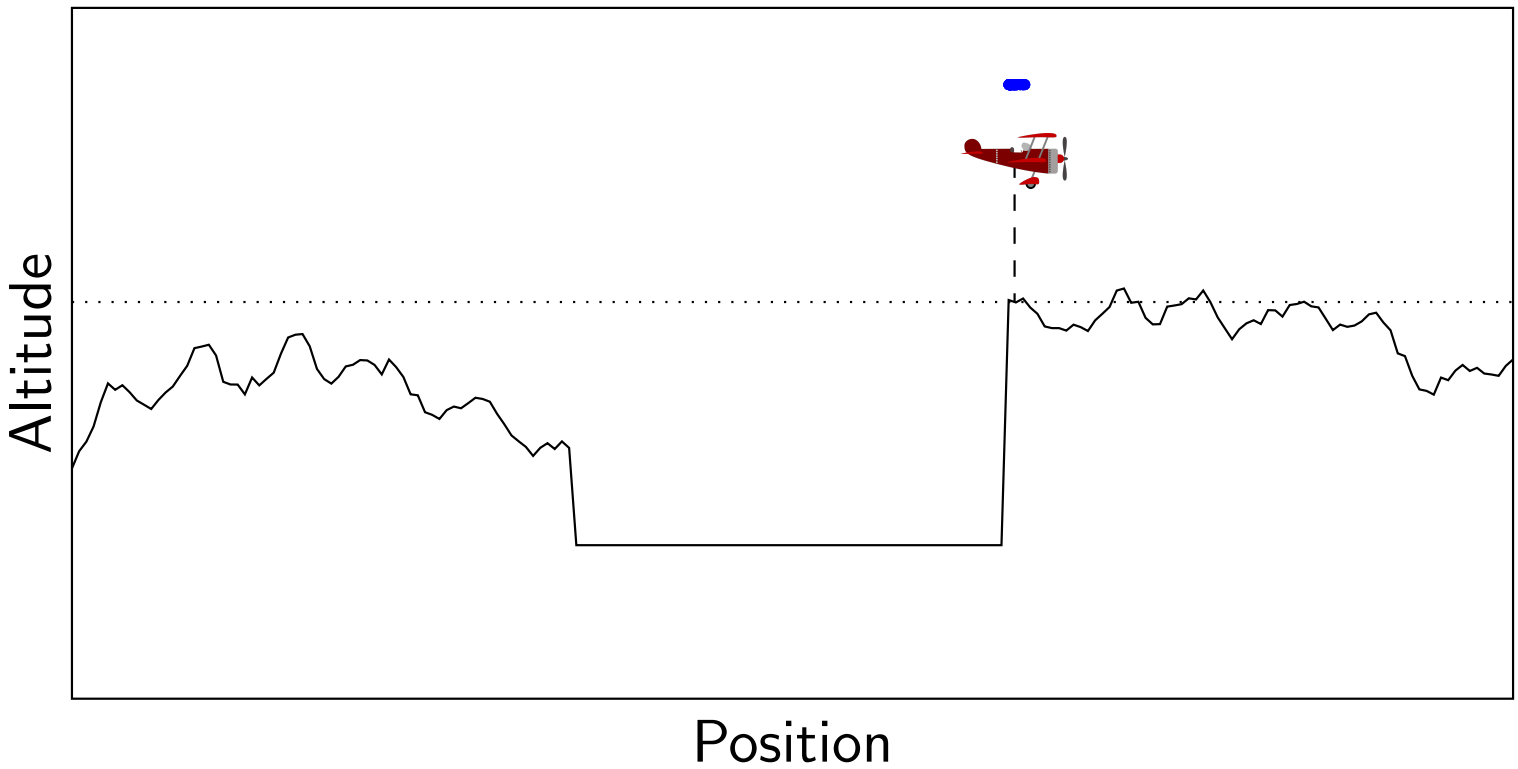
Sequential Monte Carlo inference

Propagate, weigh, resample



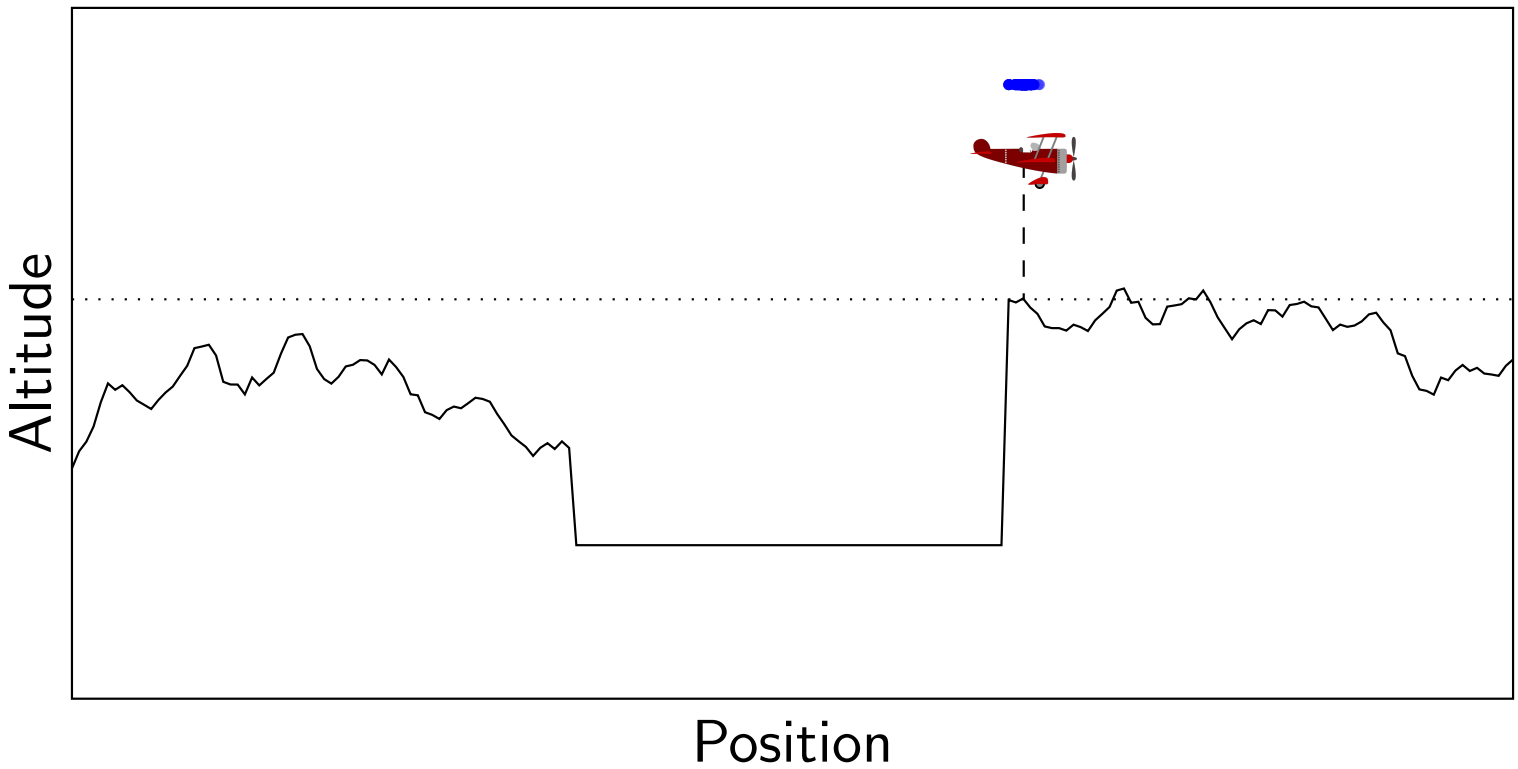
Sequential Monte Carlo inference

Propagate, weigh, resample



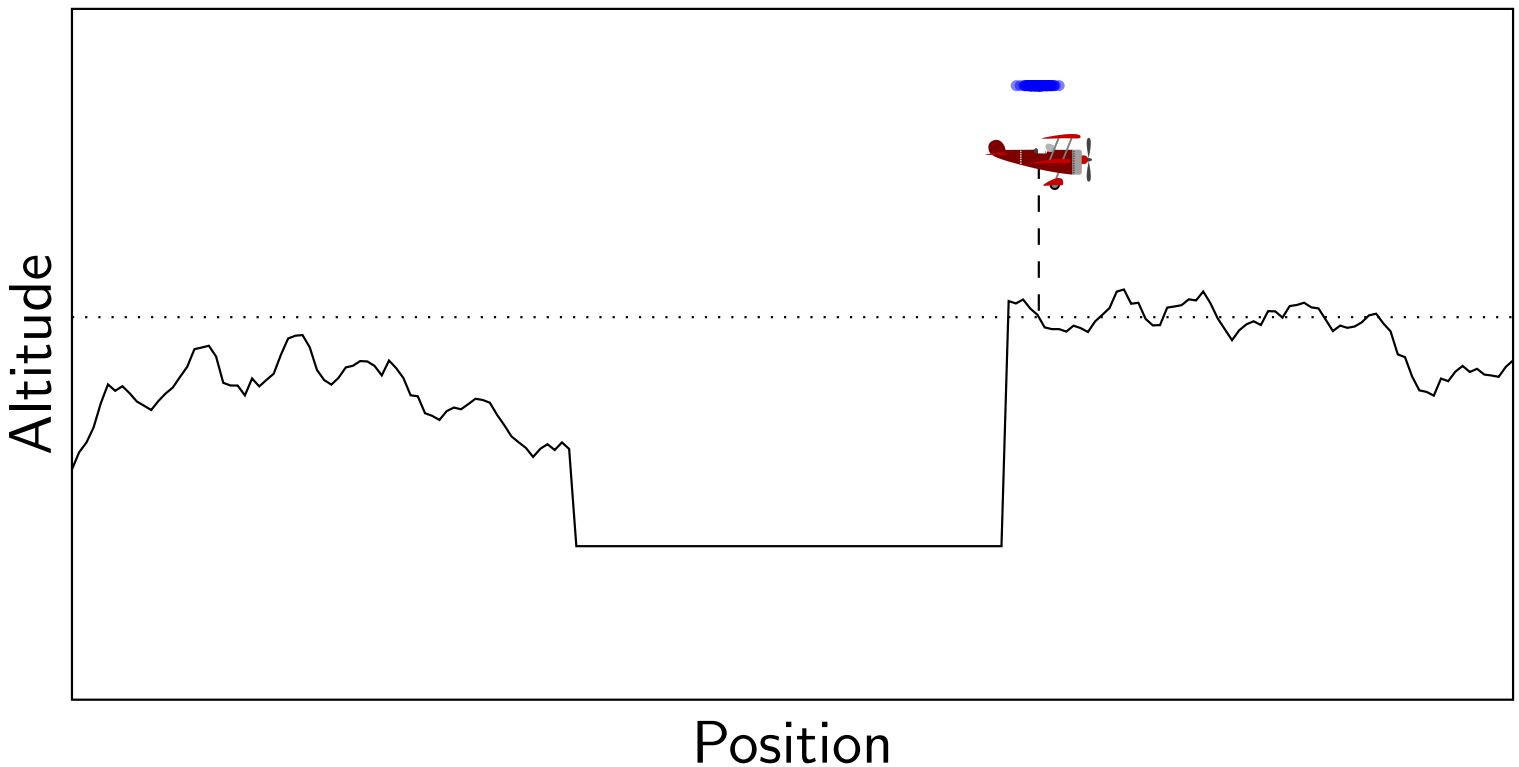
Sequential Monte Carlo inference

Propagate, weigh, resample



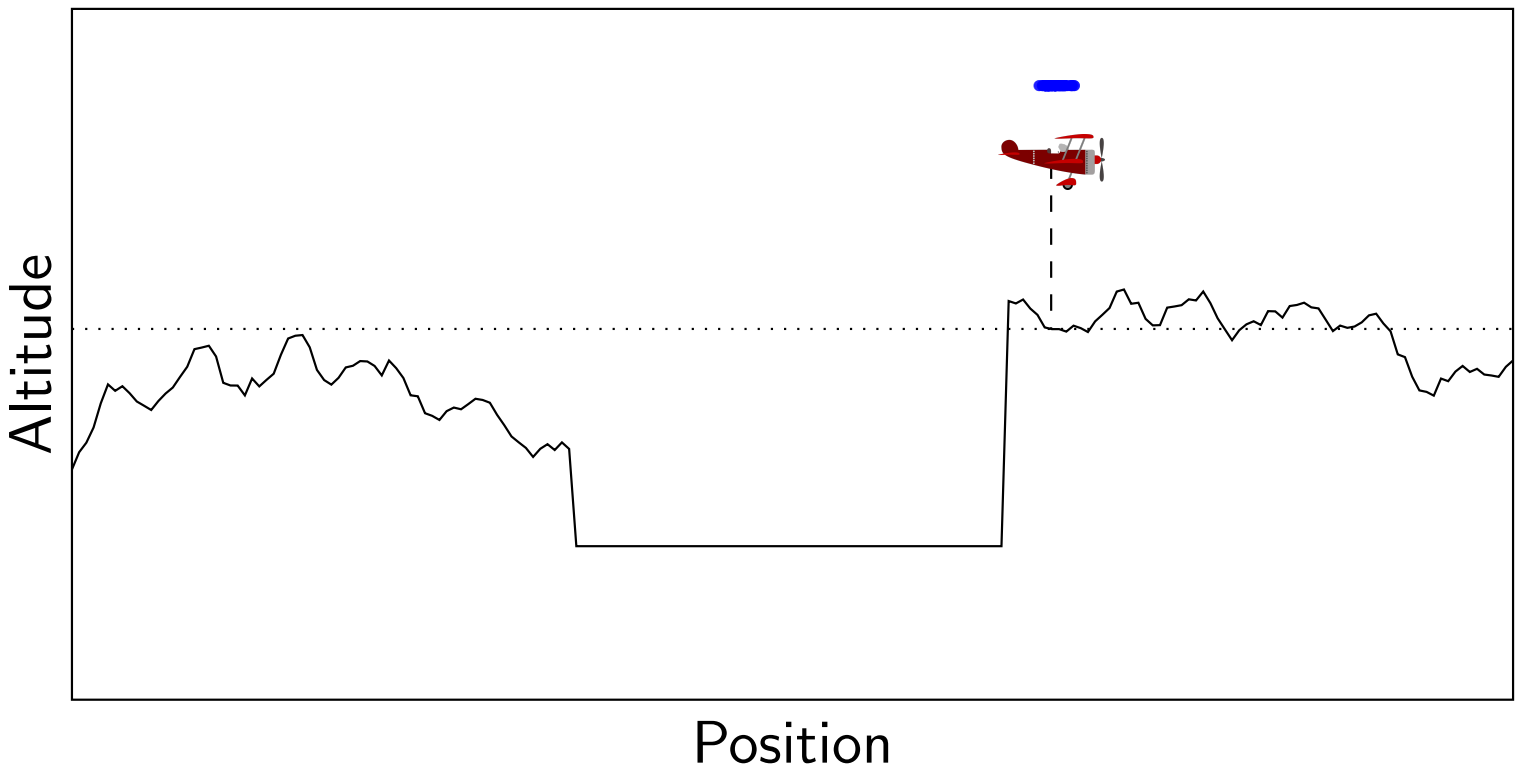
Sequential Monte Carlo inference

Propagate, weigh, resample



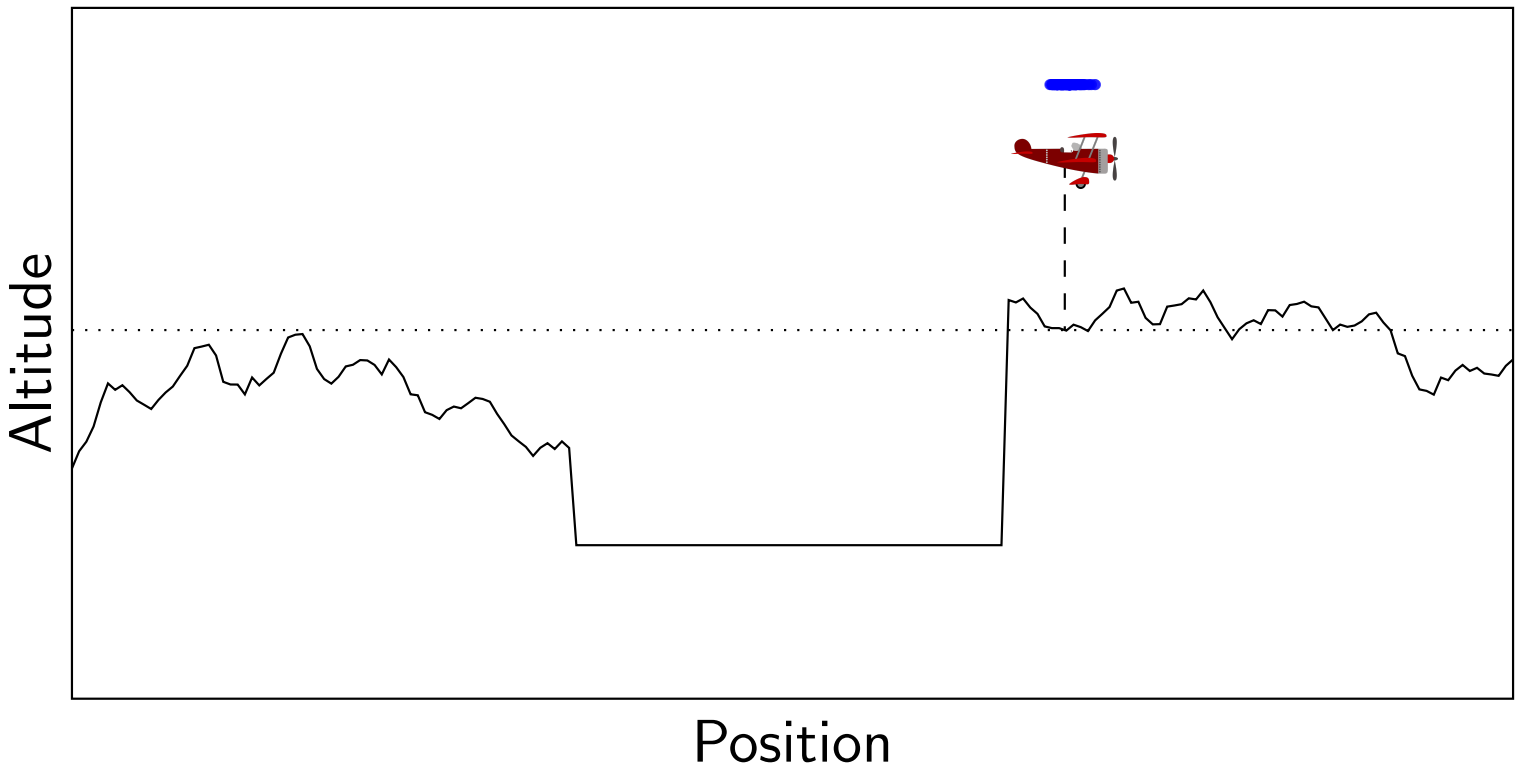
Sequential Monte Carlo inference

Propagate, weigh, resample



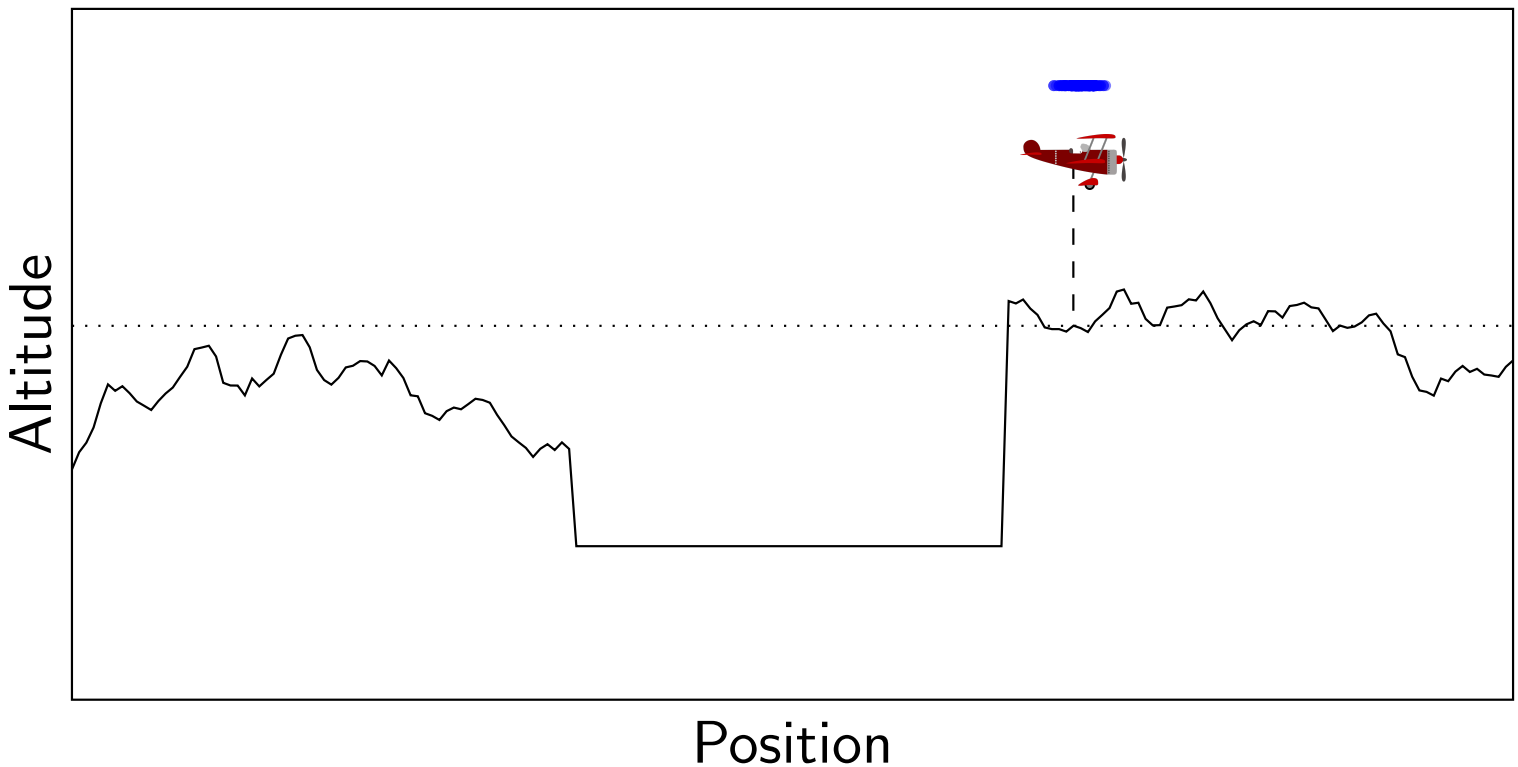
Sequential Monte Carlo inference

Propagate, weigh, resample



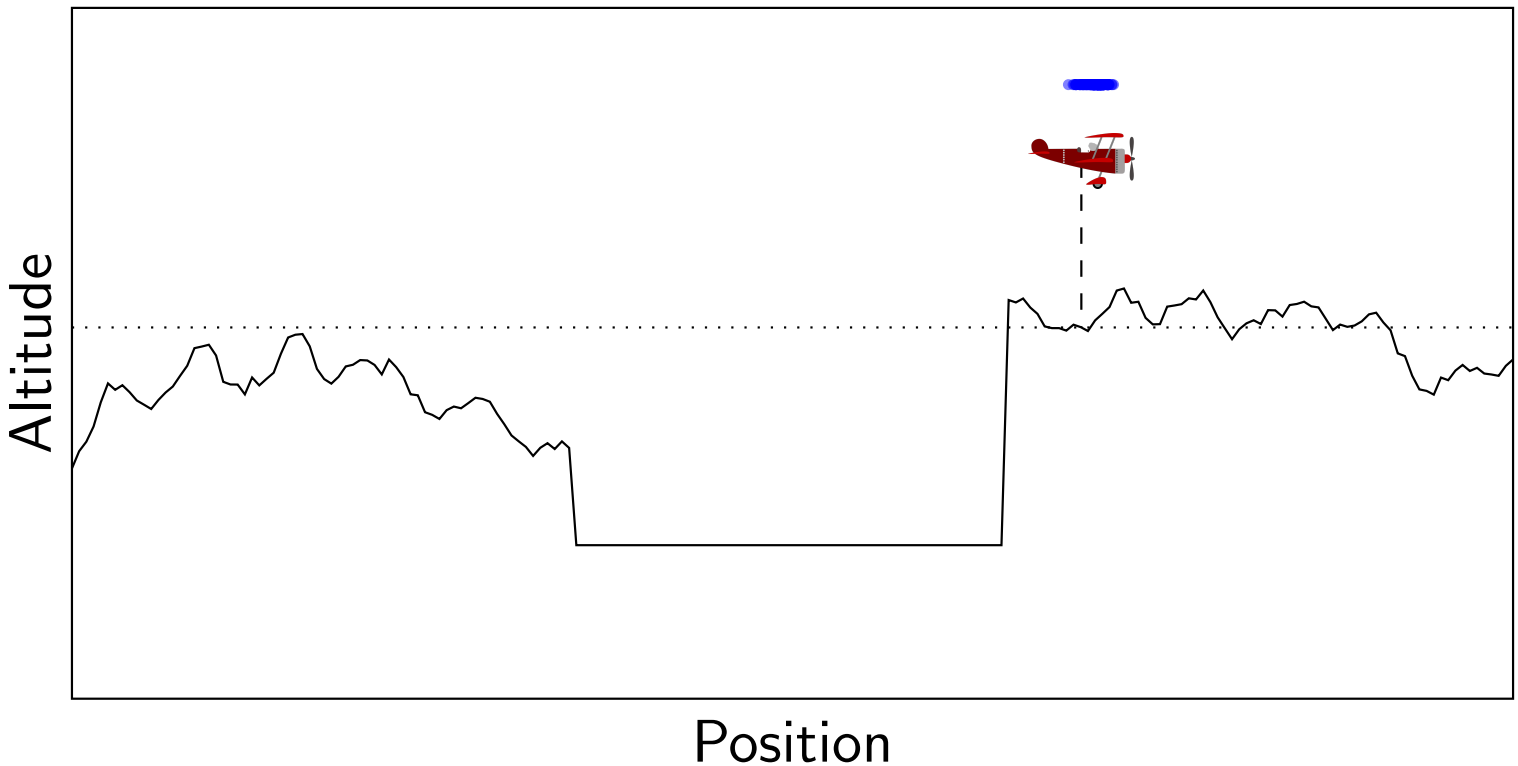
Sequential Monte Carlo inference

Propagate, weigh, resample



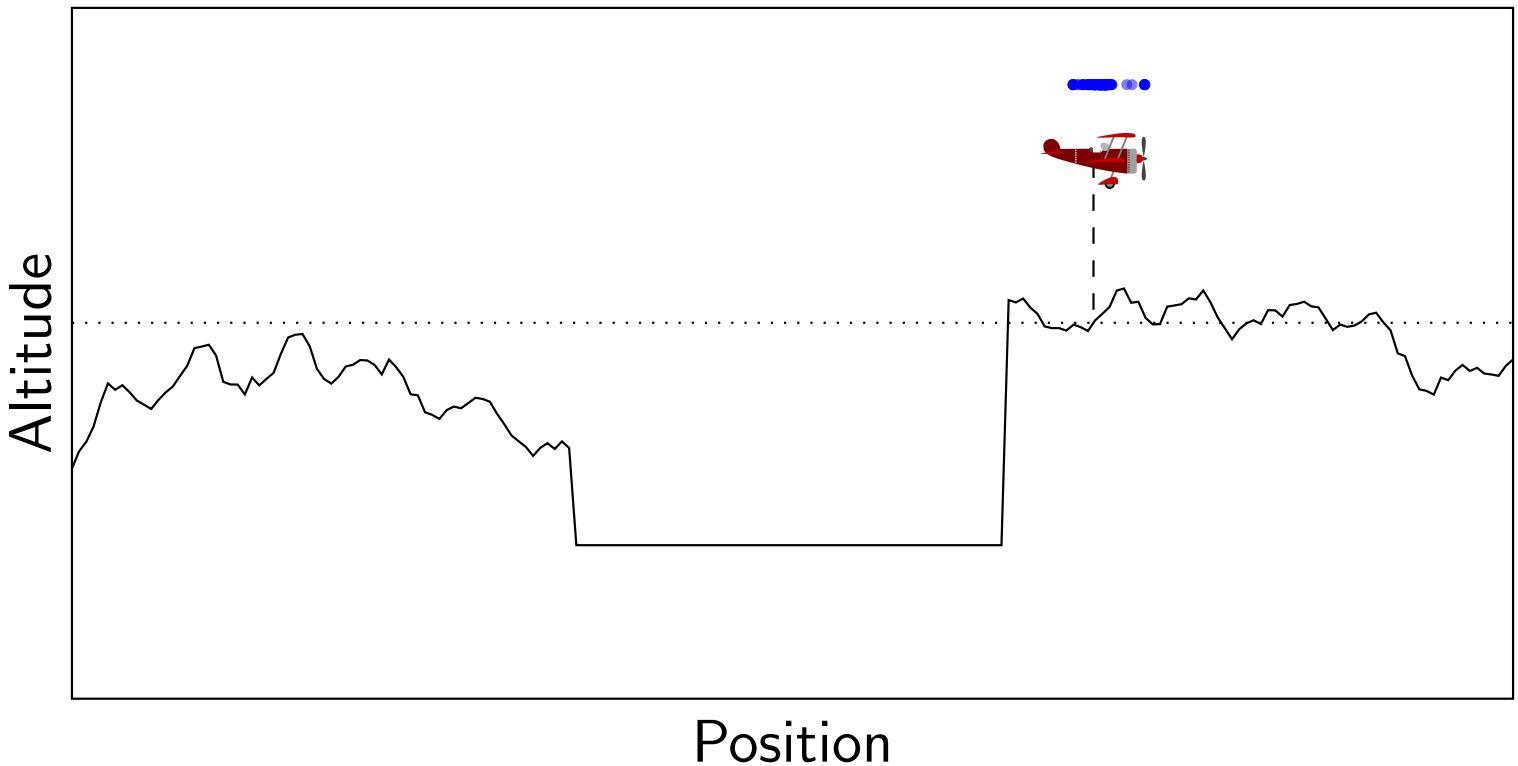
Sequential Monte Carlo inference

Propagate, weigh, resample



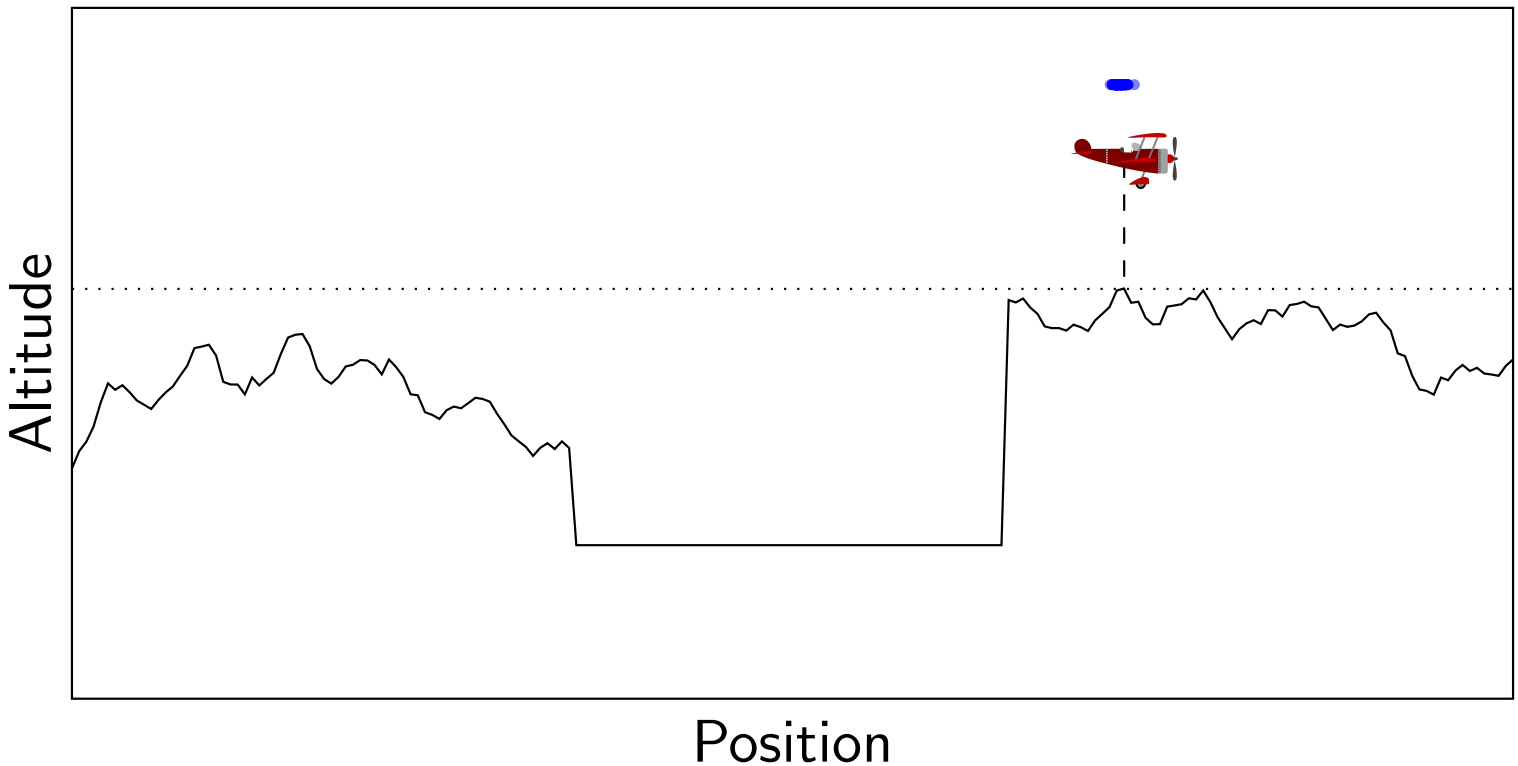
Sequential Monte Carlo inference

Propagate, weigh, resample



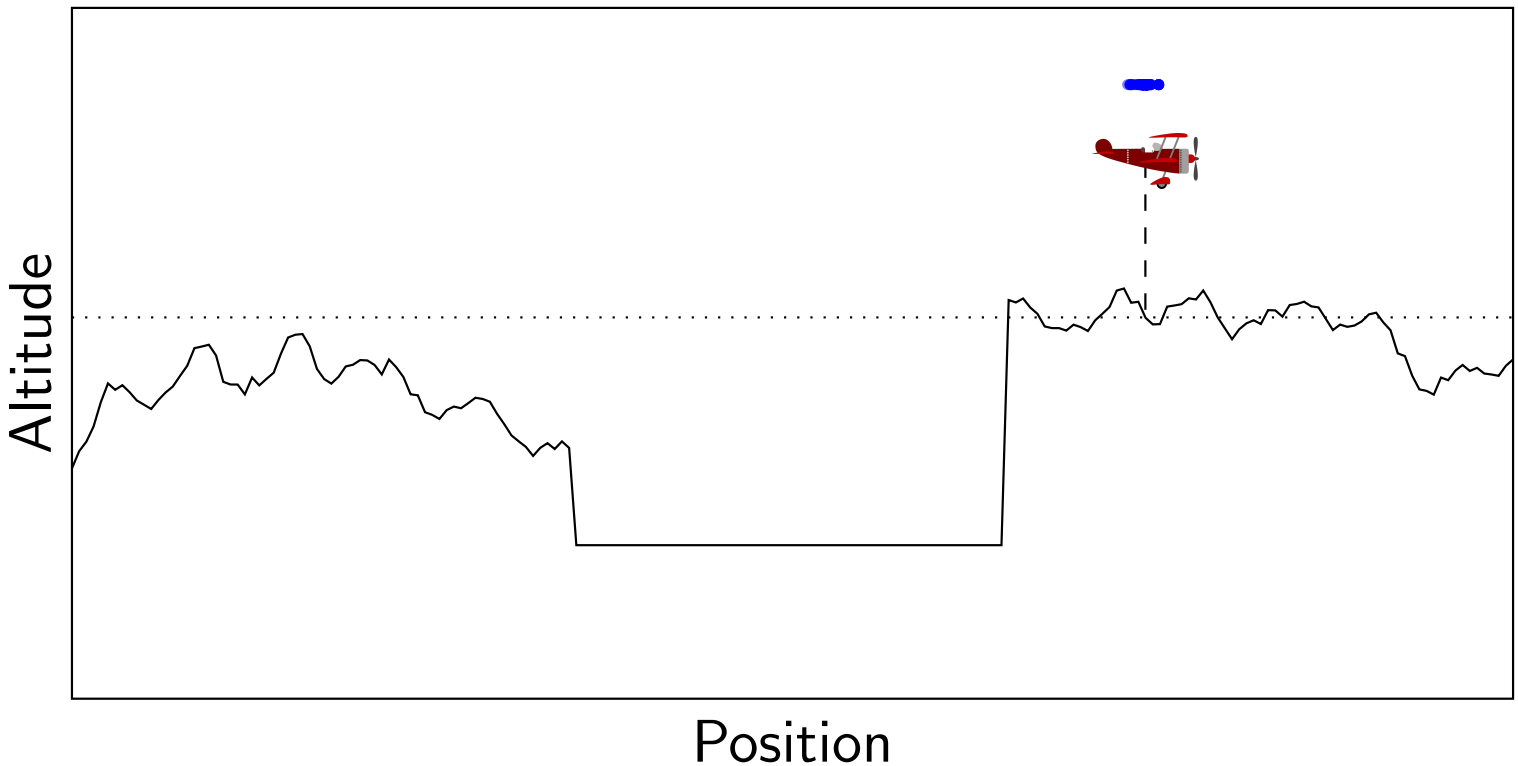
Sequential Monte Carlo inference

Propagate, weigh, resample



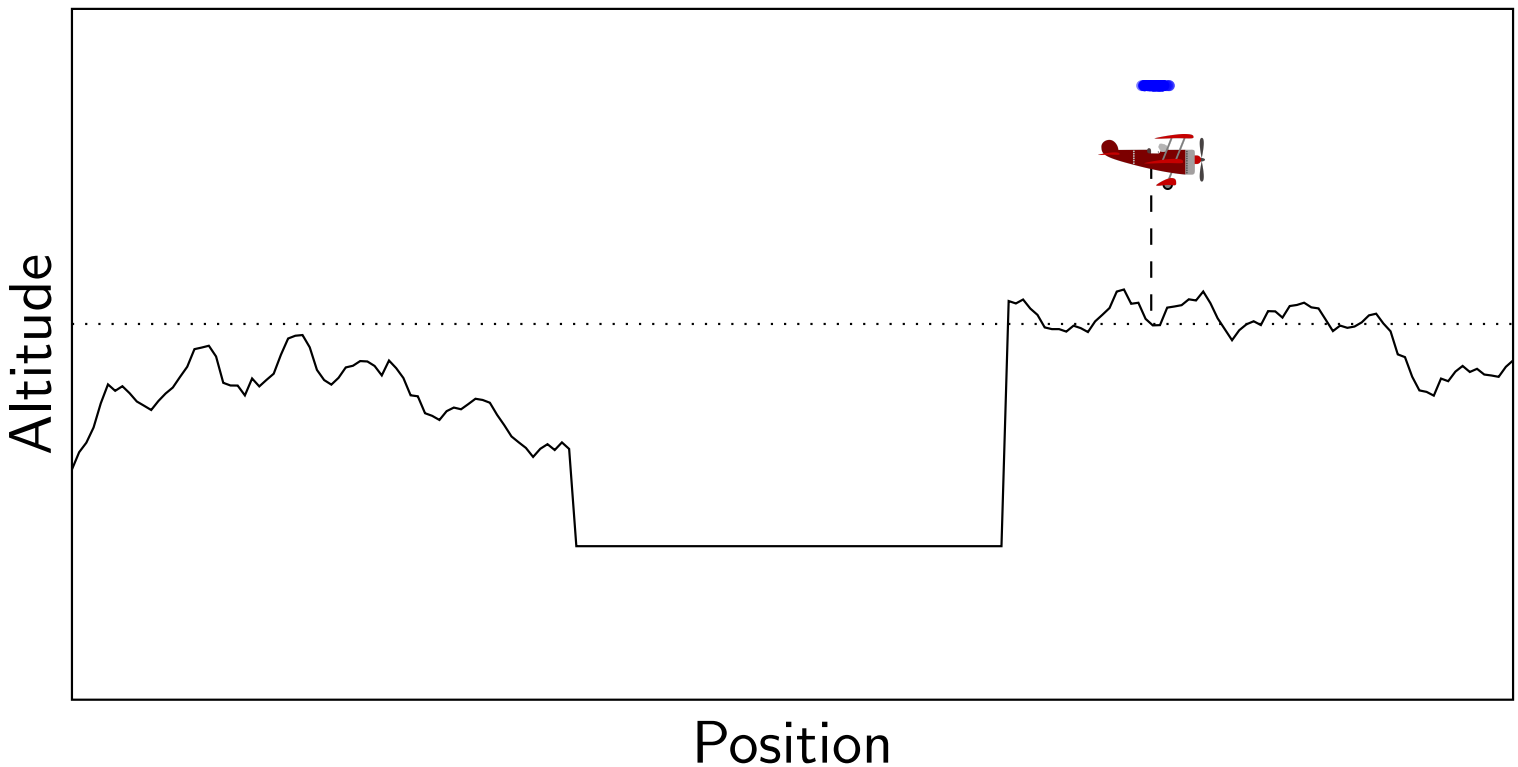
Sequential Monte Carlo inference

Propagate, weigh, resample



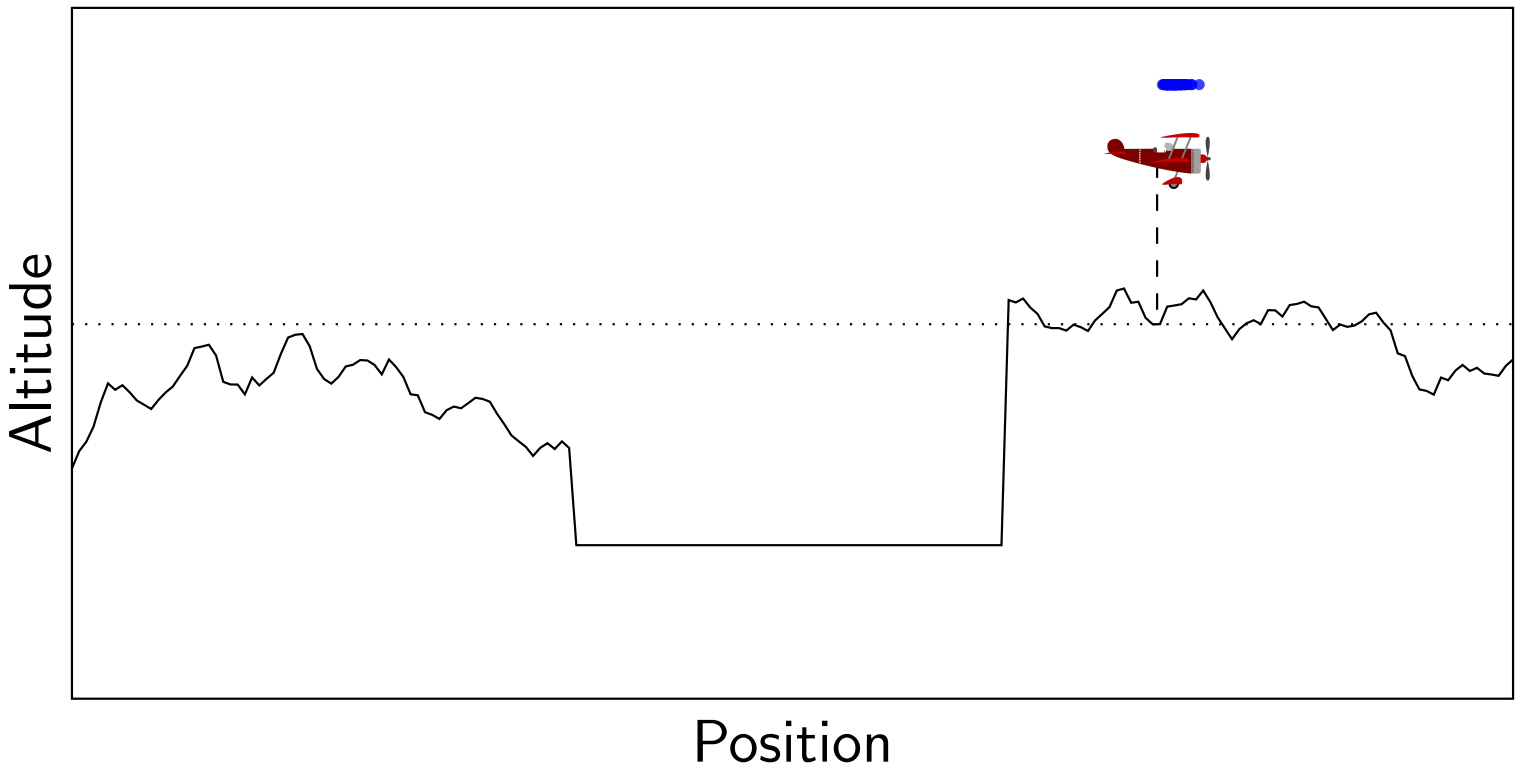
Sequential Monte Carlo inference

Propagate, weigh, resample



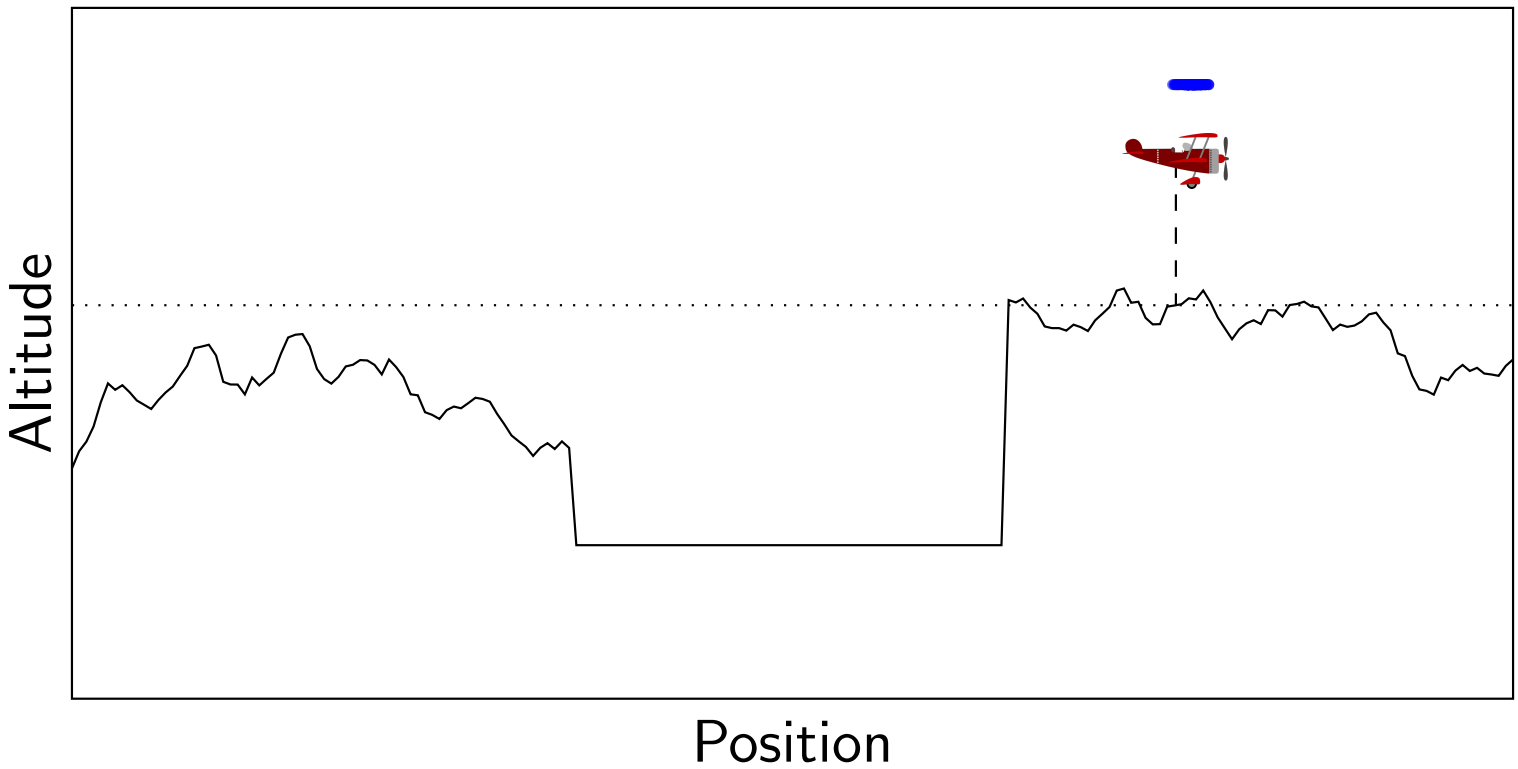
Sequential Monte Carlo inference

Propagate, weigh, resample



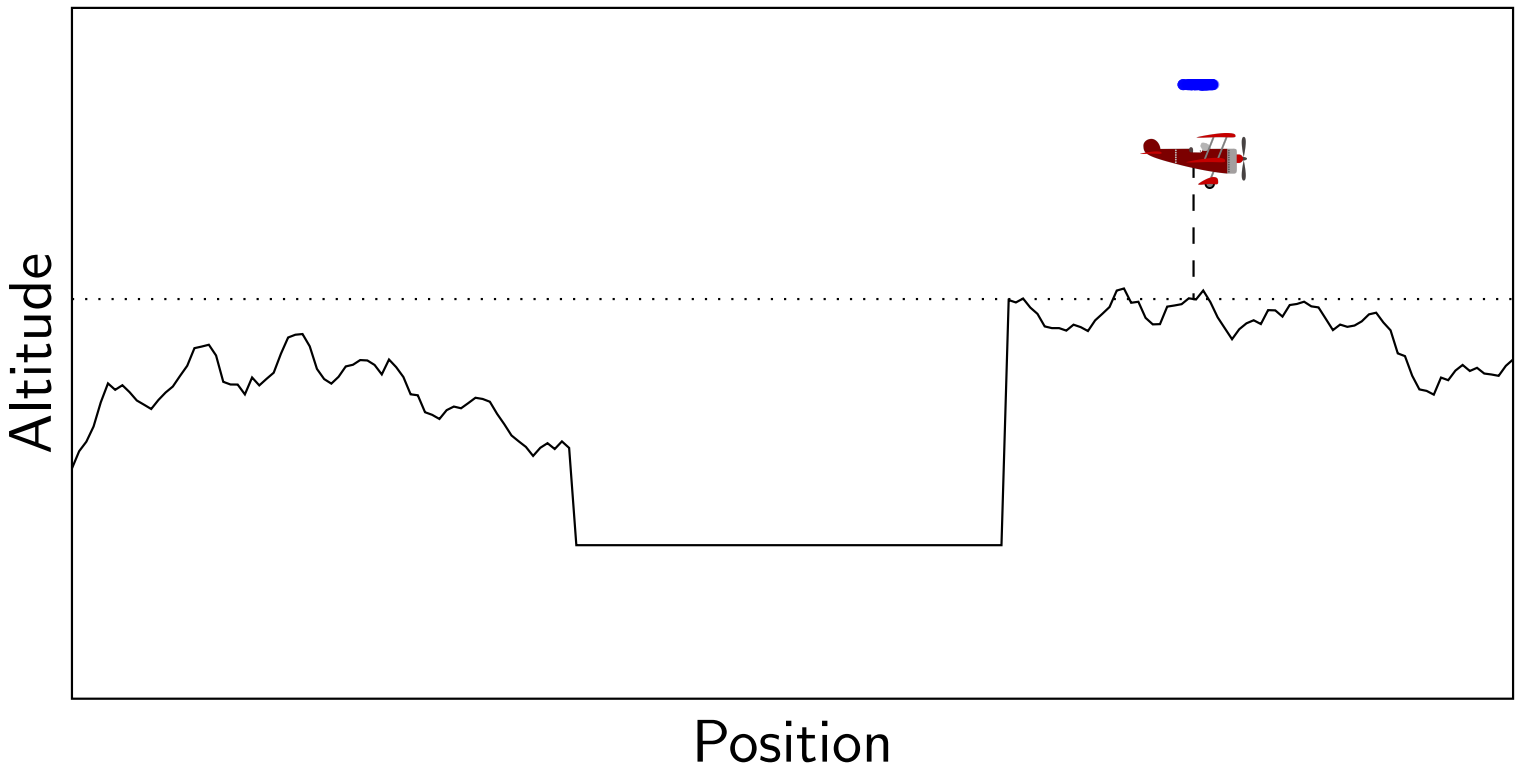
Sequential Monte Carlo inference

Propagate, weigh, resample



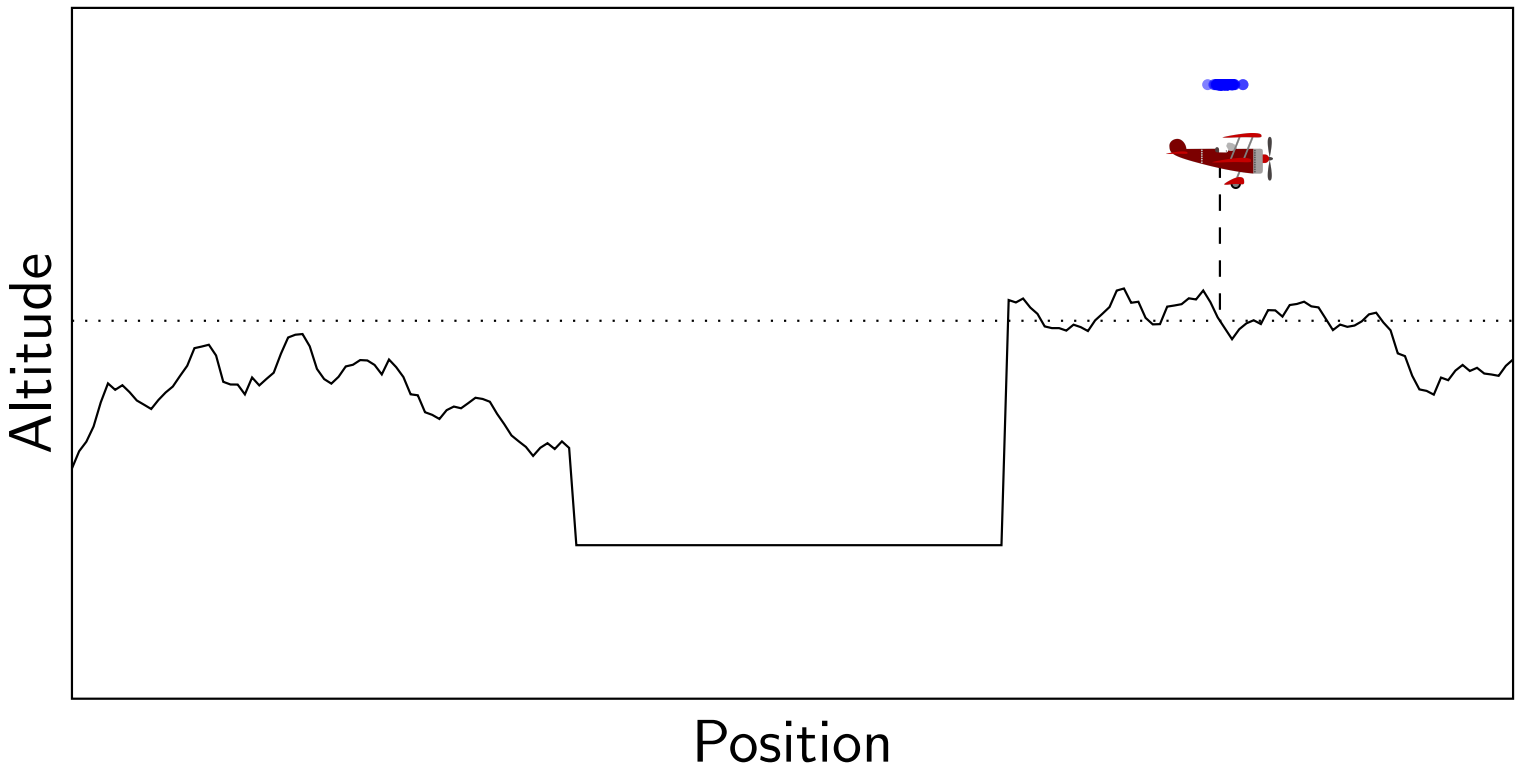
Sequential Monte Carlo inference

Propagate, weigh, resample



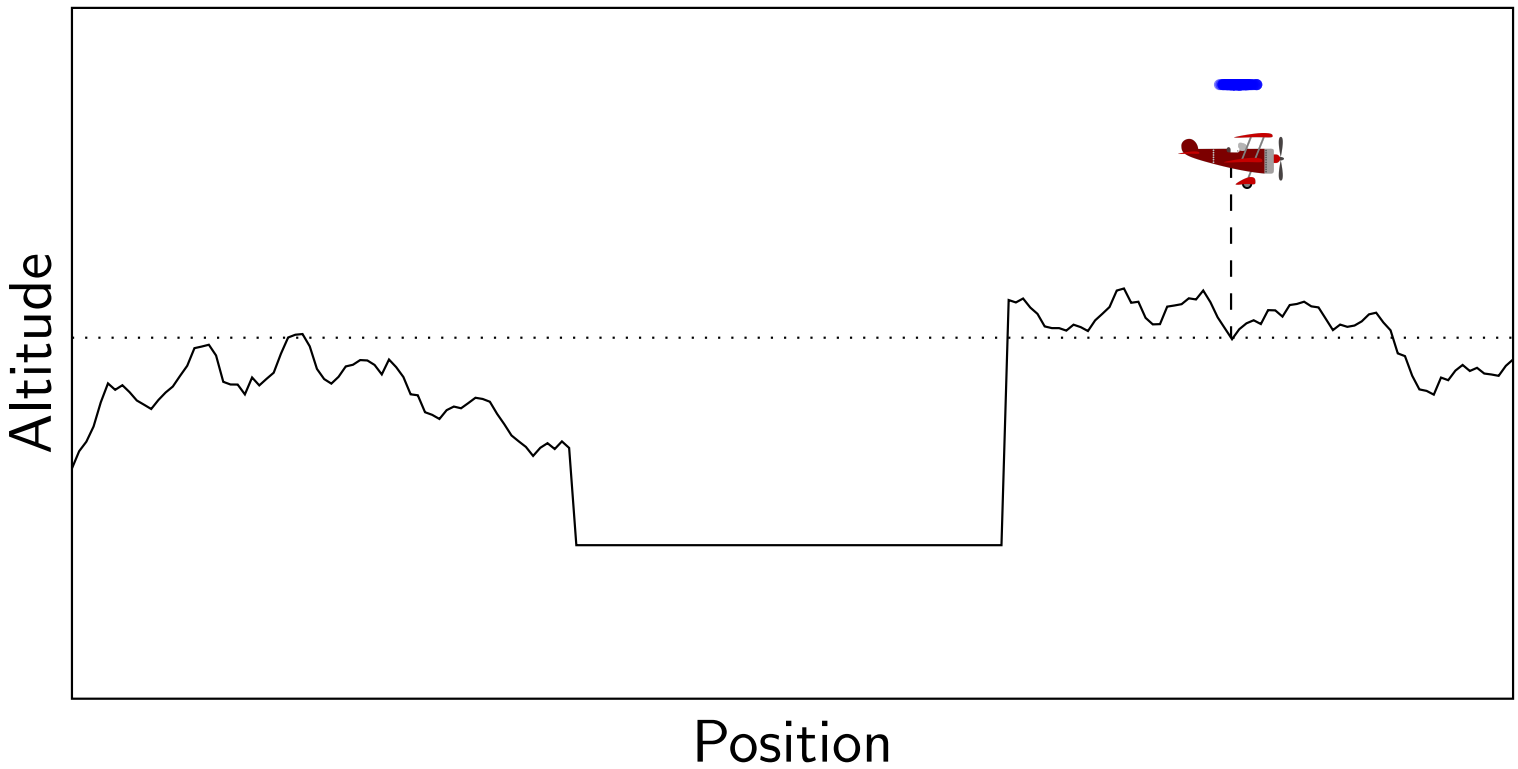
Sequential Monte Carlo inference

Propagate, weigh, resample



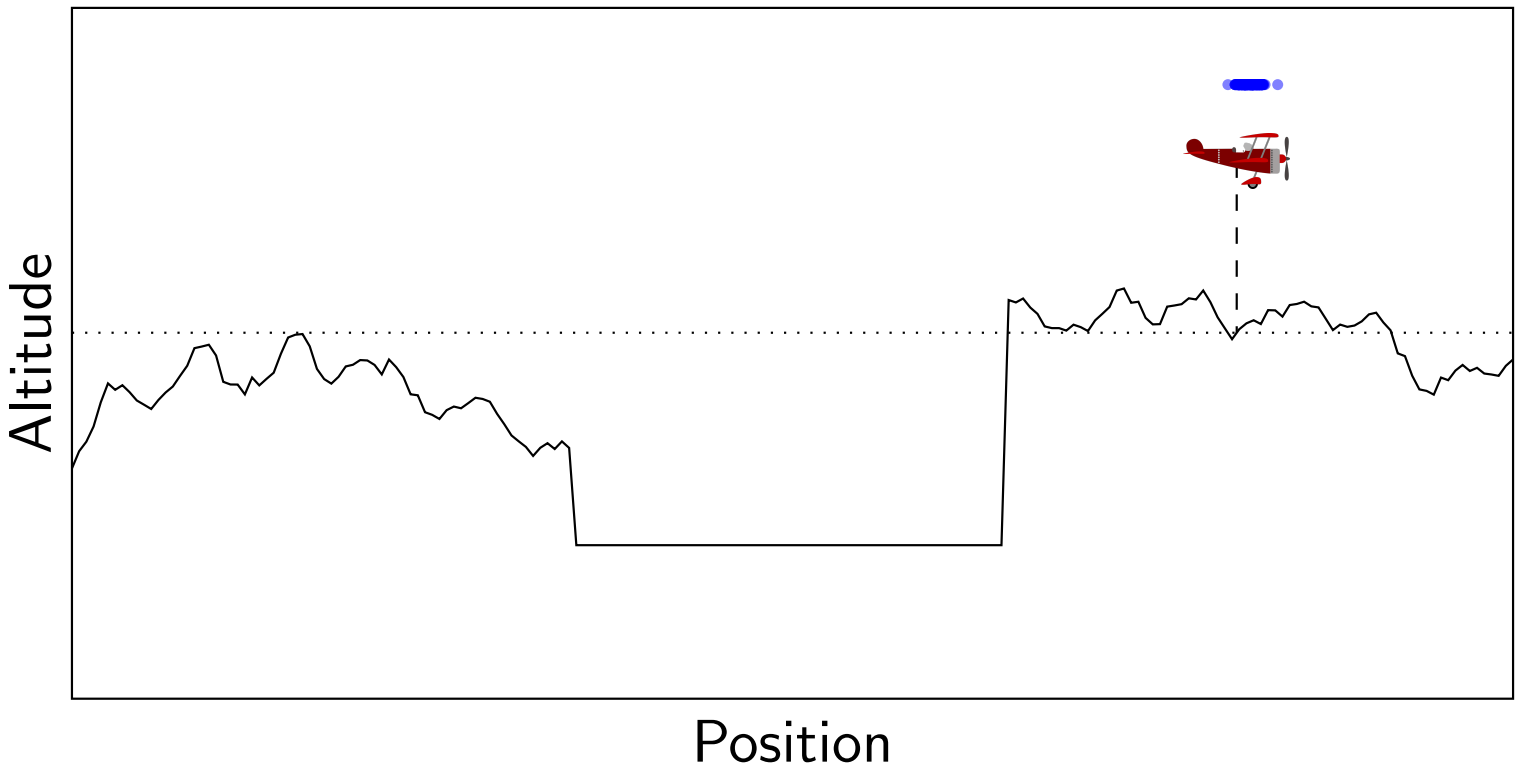
Sequential Monte Carlo inference

Propagate, weigh, resample



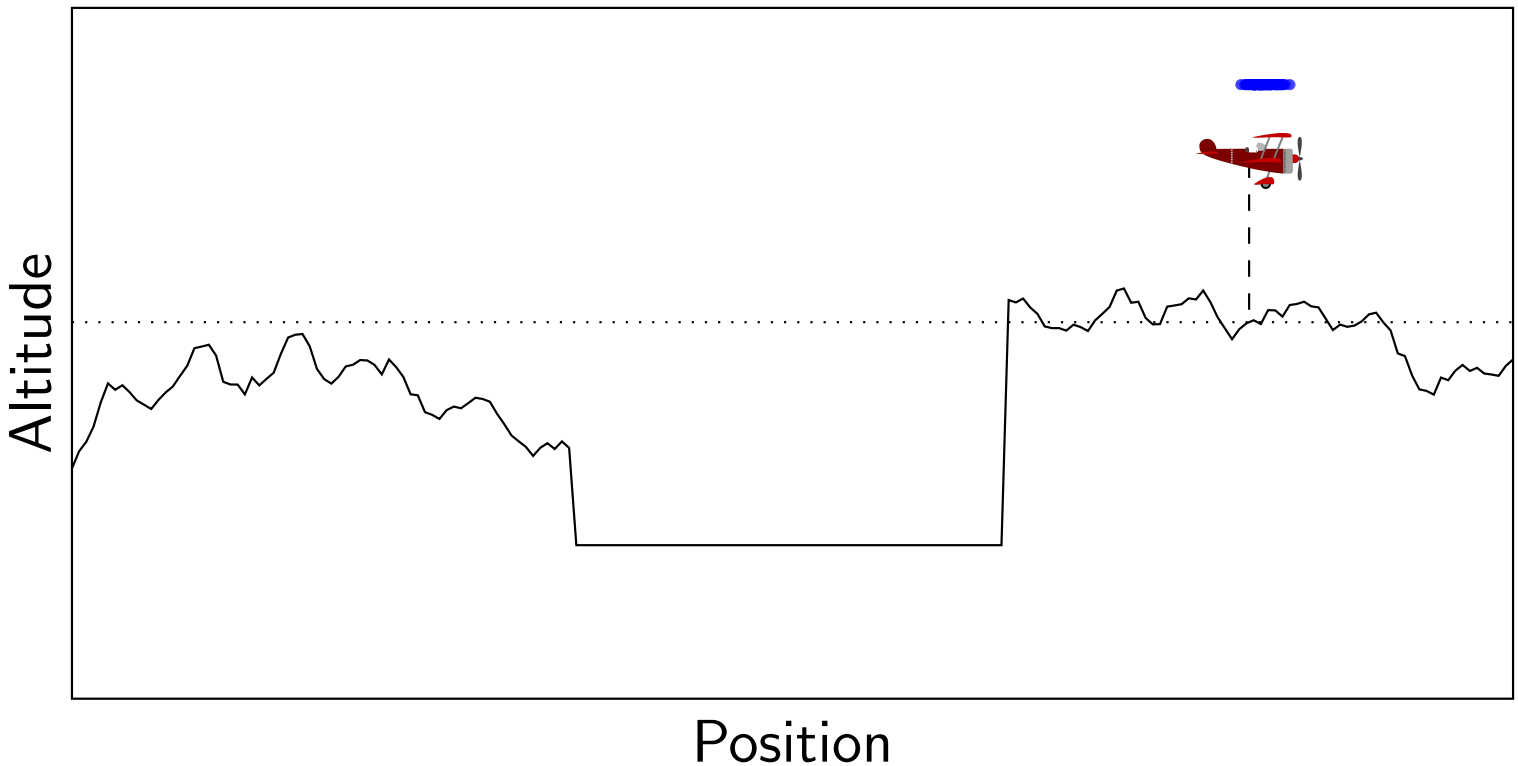
Sequential Monte Carlo inference

Propagate, weigh, resample



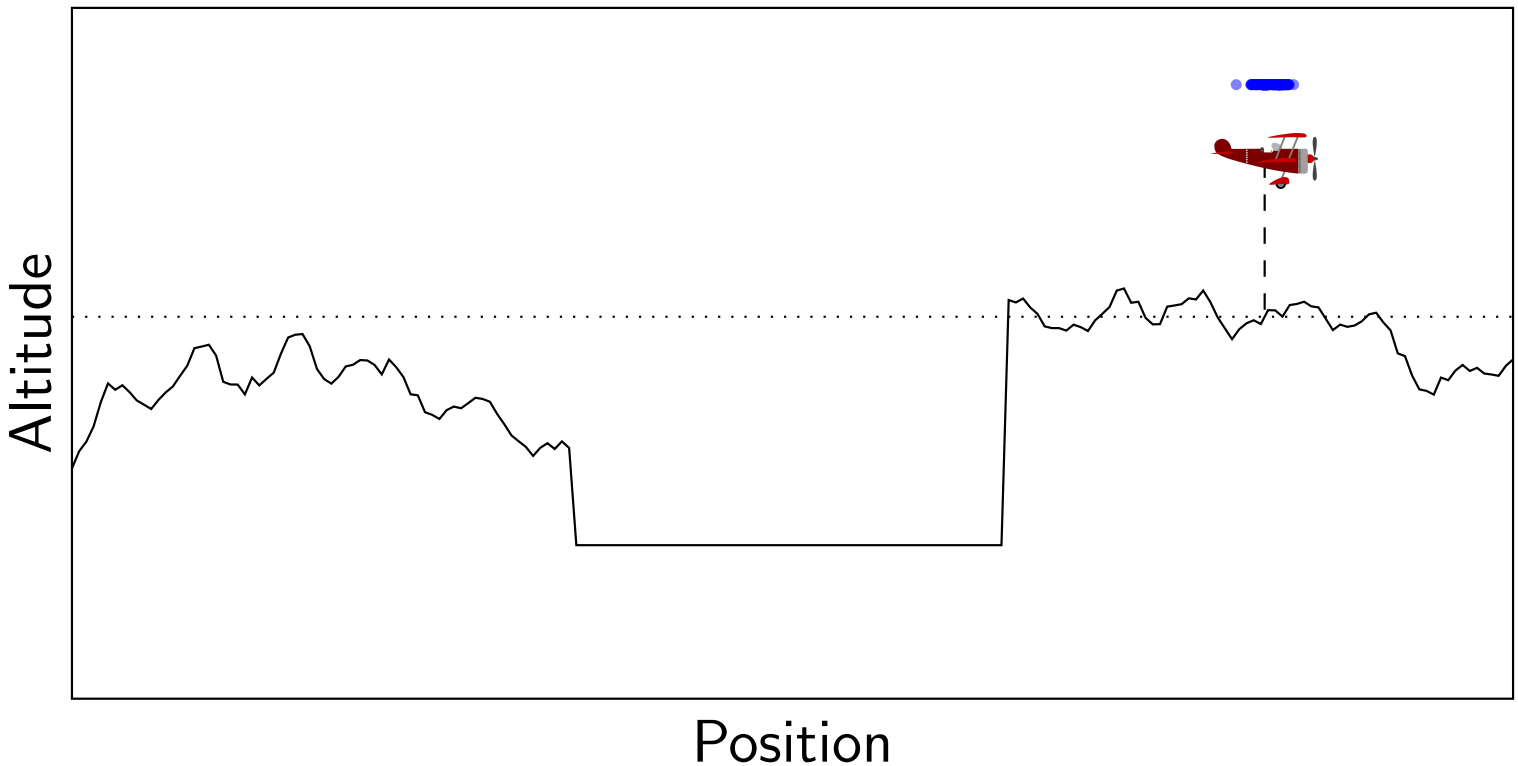
Sequential Monte Carlo inference

Propagate, weigh, resample



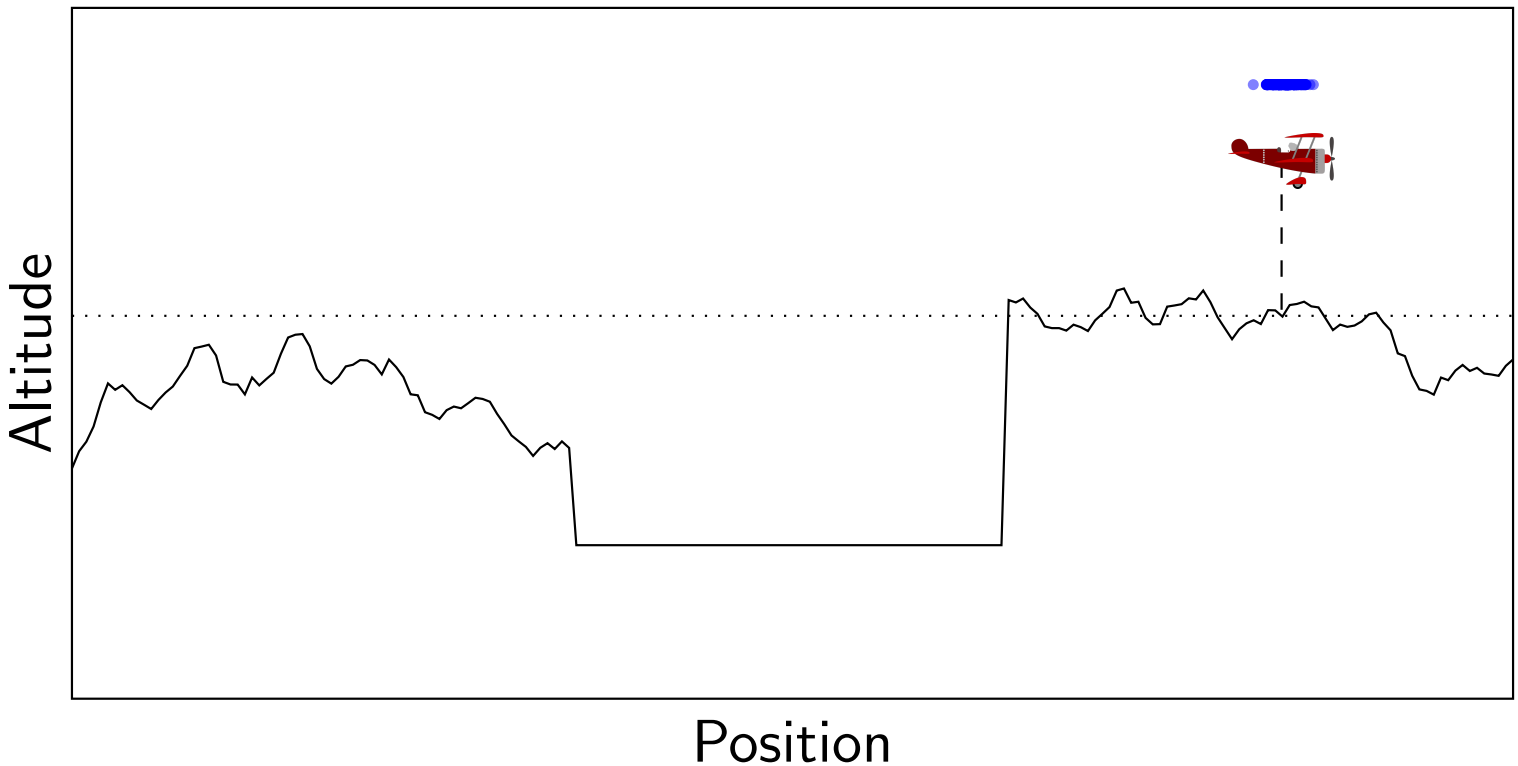
Sequential Monte Carlo inference

Propagate, weigh, resample



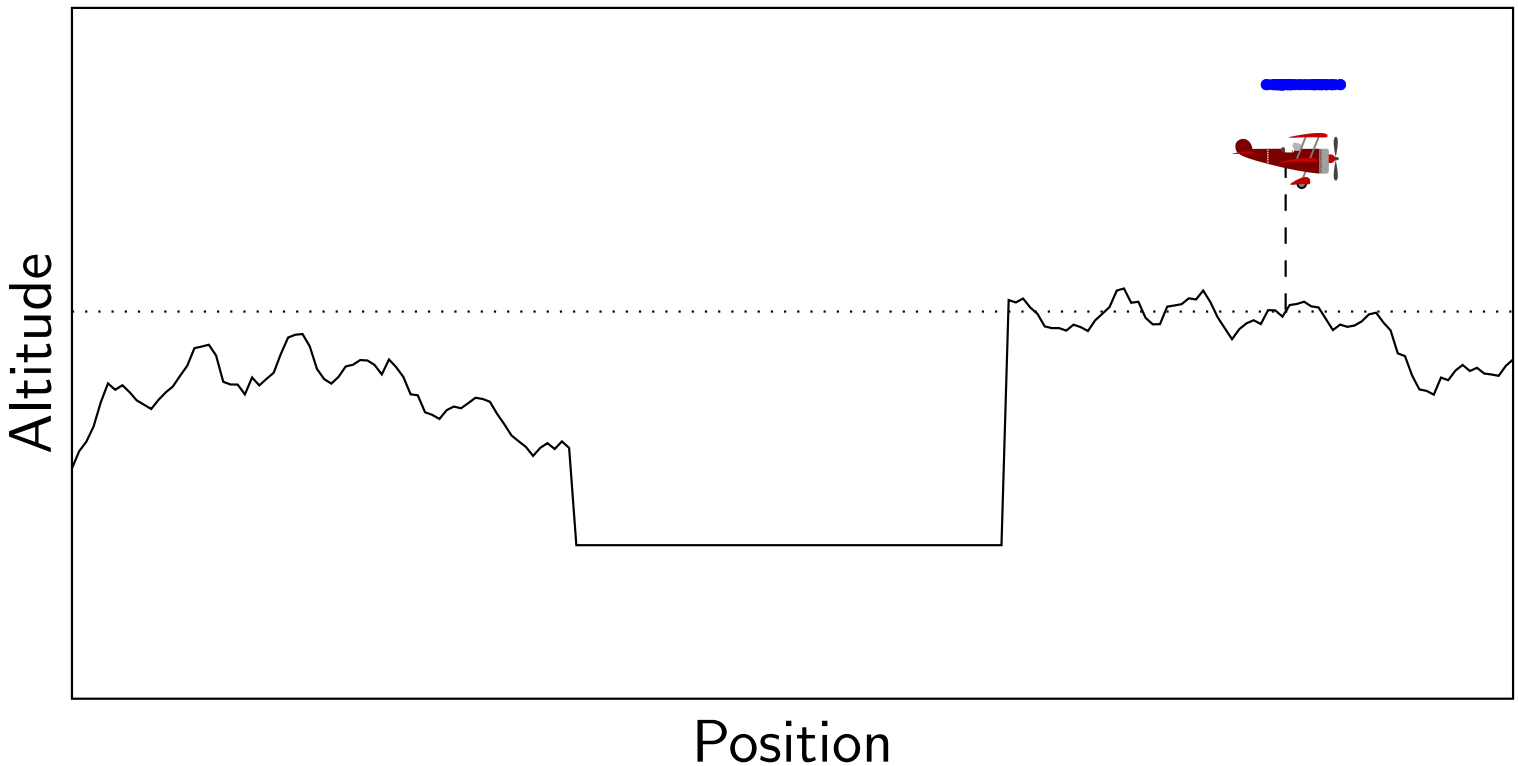
Sequential Monte Carlo inference

Propagate, weigh, resample



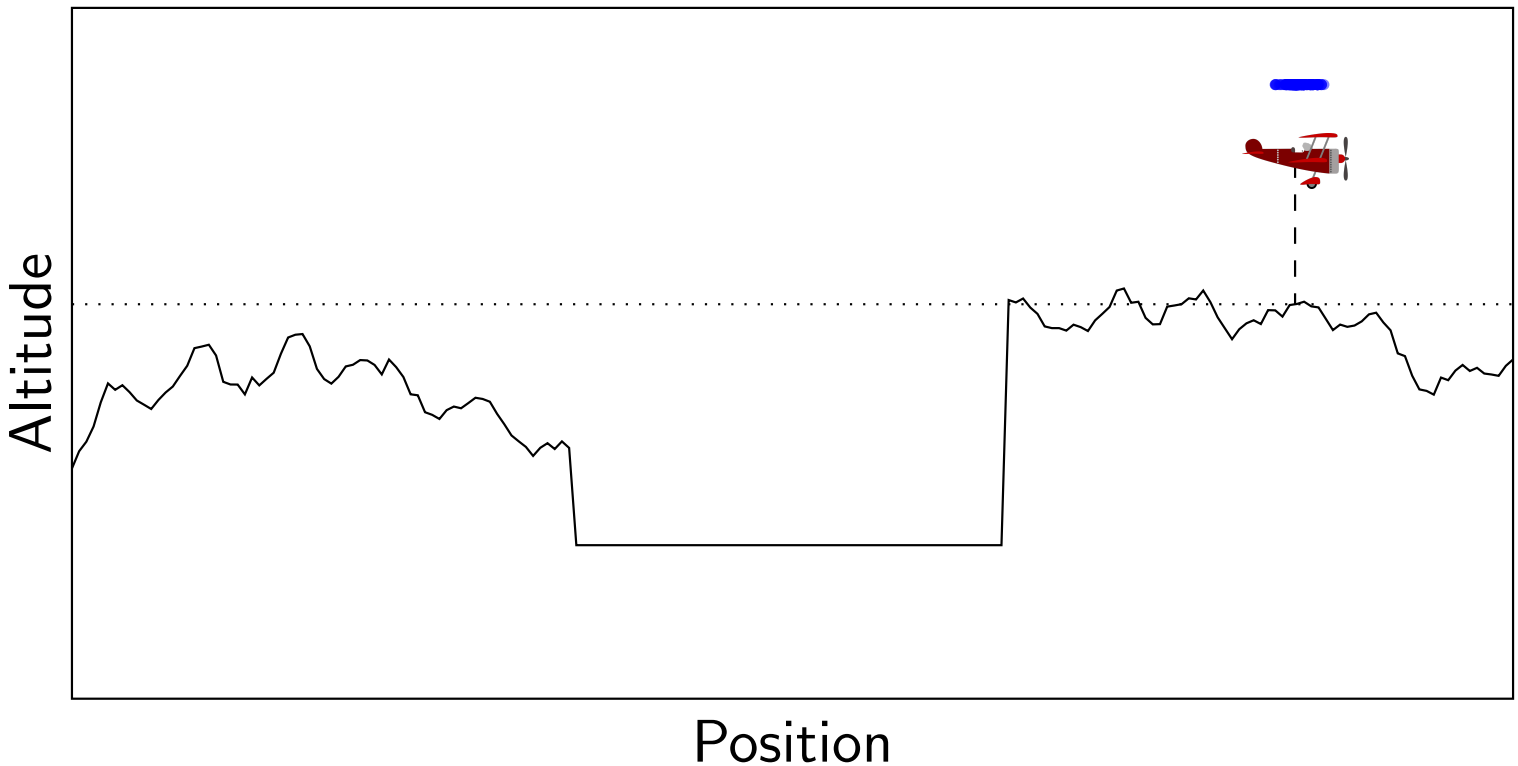
Sequential Monte Carlo inference

Propagate, weigh, resample



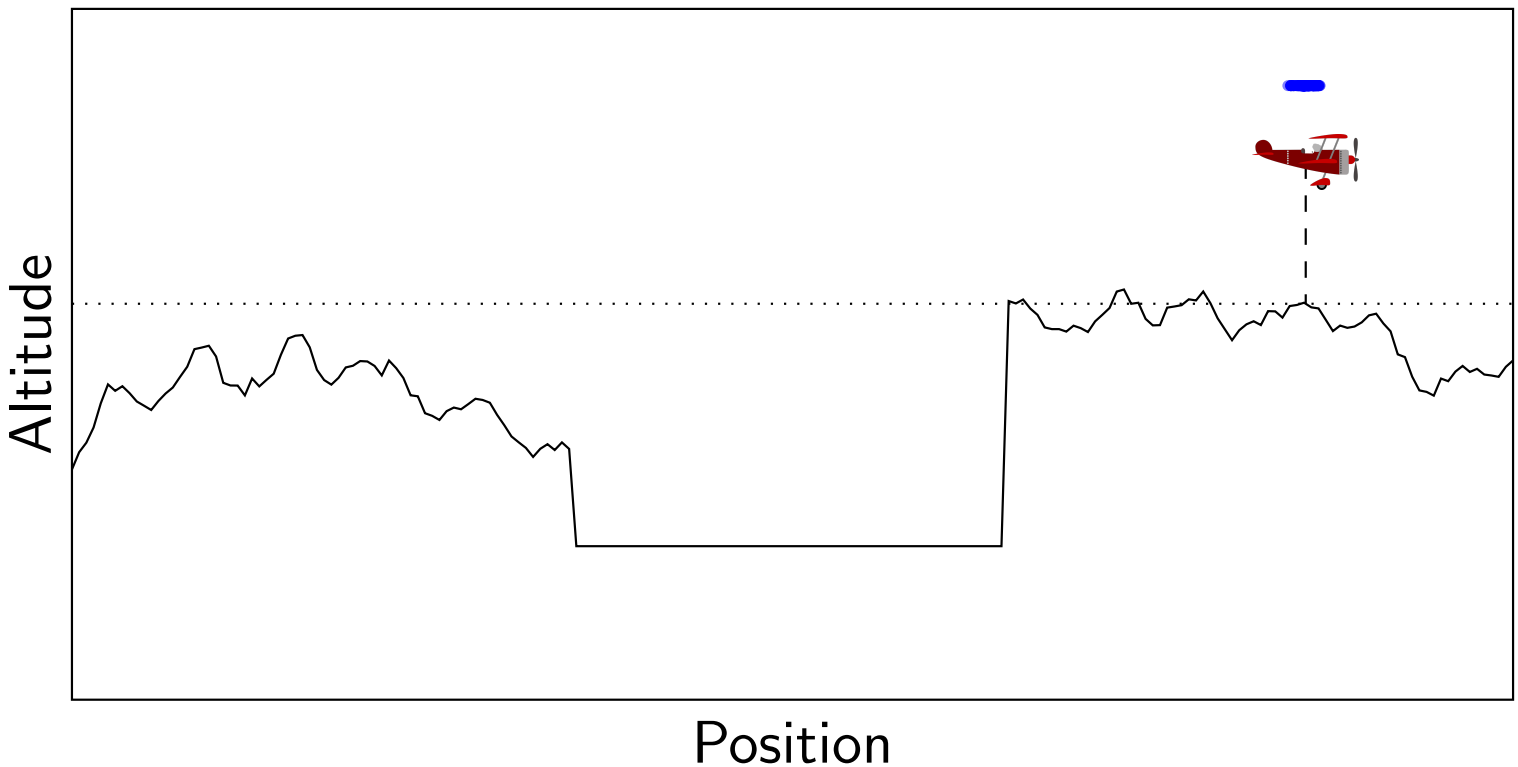
Sequential Monte Carlo inference

Propagate, weigh, resample



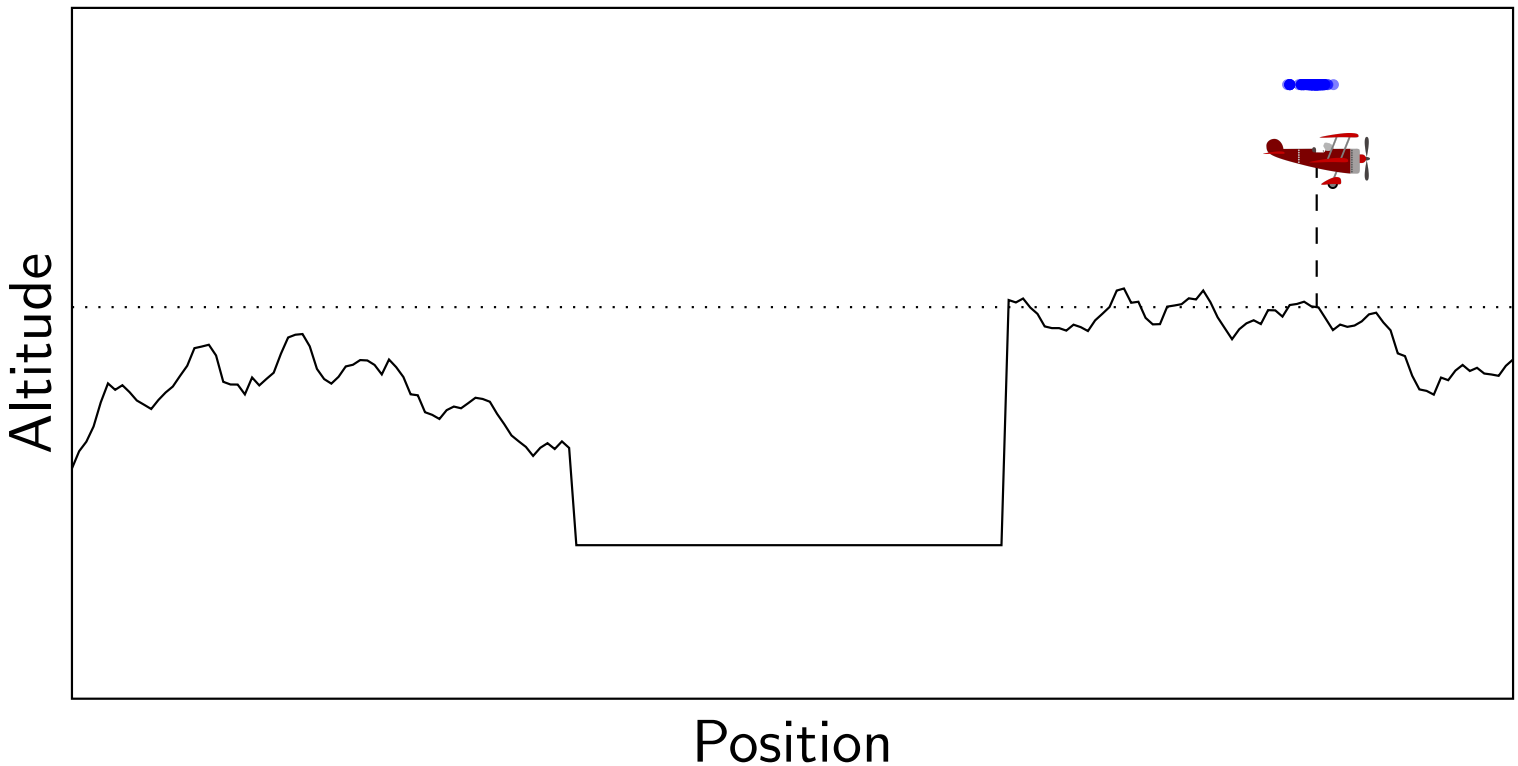
Sequential Monte Carlo inference

Propagate, weigh, resample



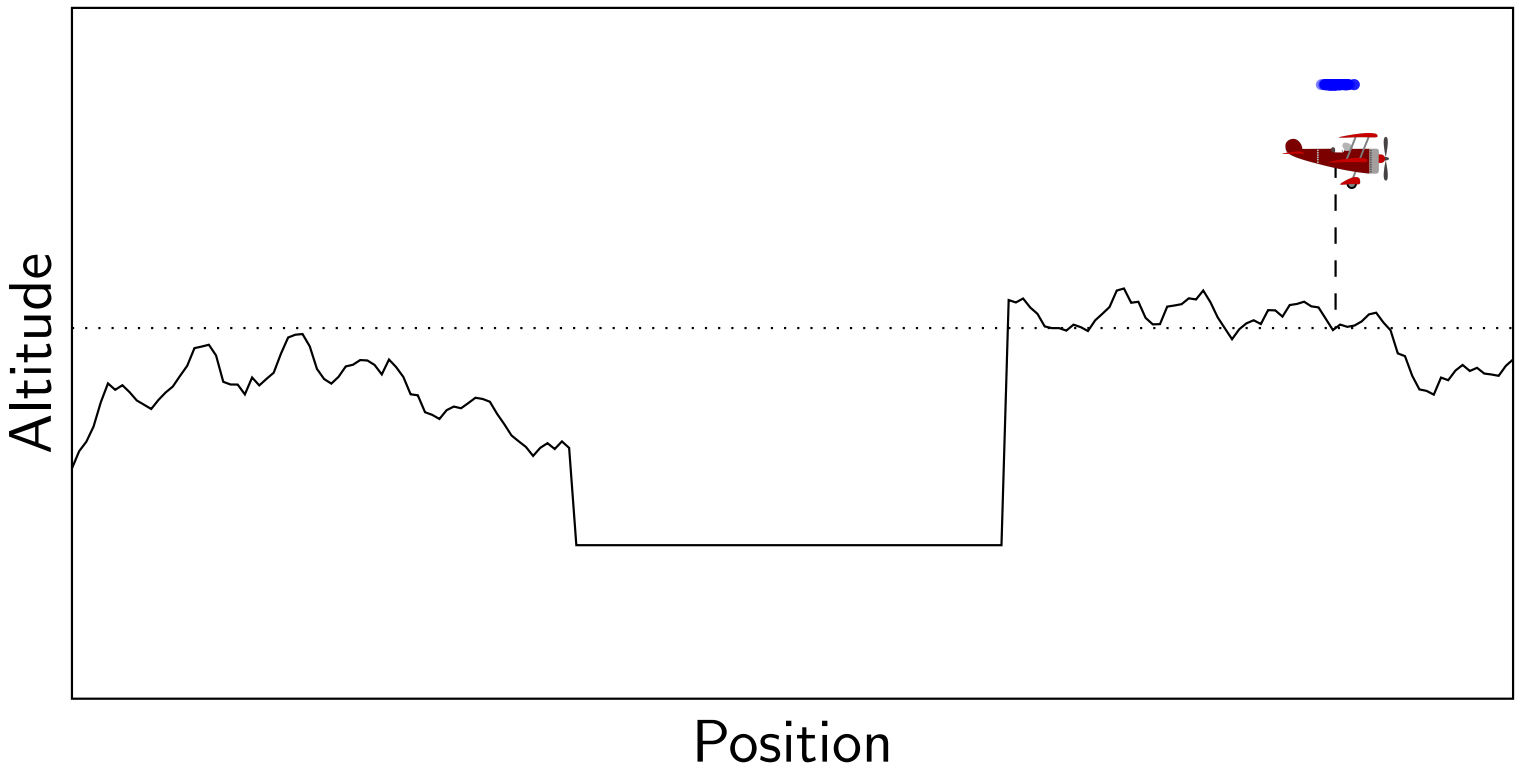
Sequential Monte Carlo inference

Propagate, weigh, resample



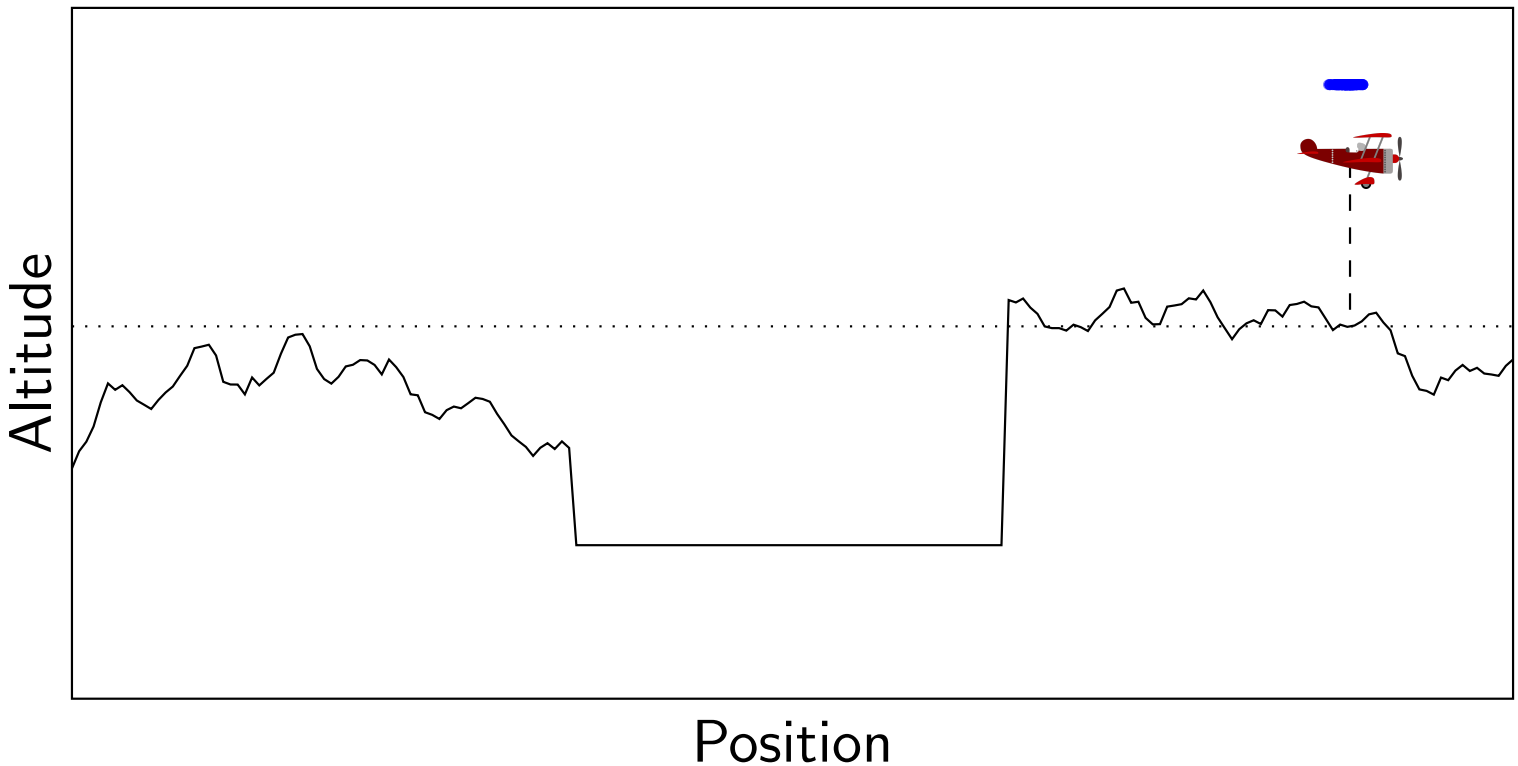
Sequential Monte Carlo inference

Propagate, weigh, resample



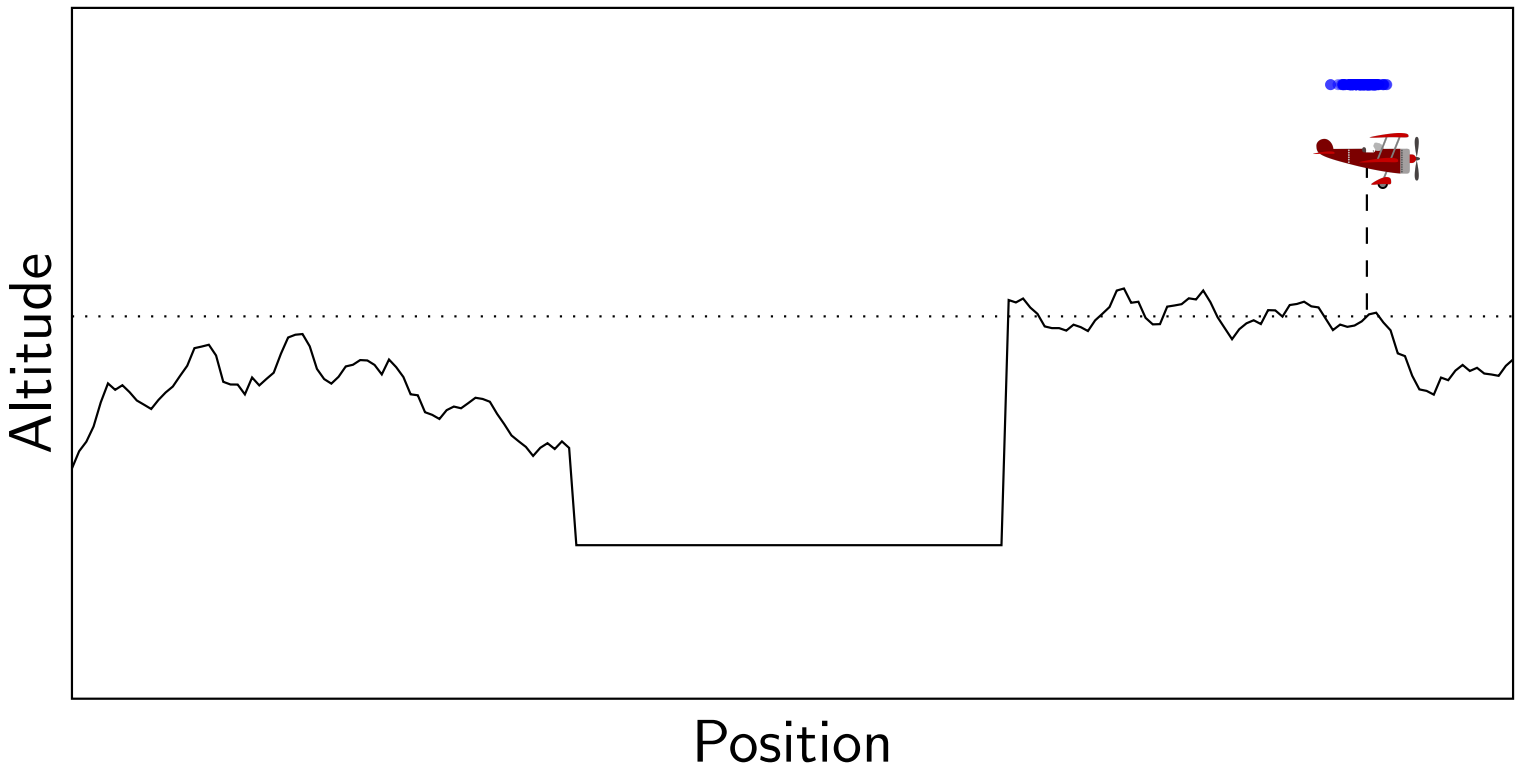
Sequential Monte Carlo inference

Propagate, weigh, resample



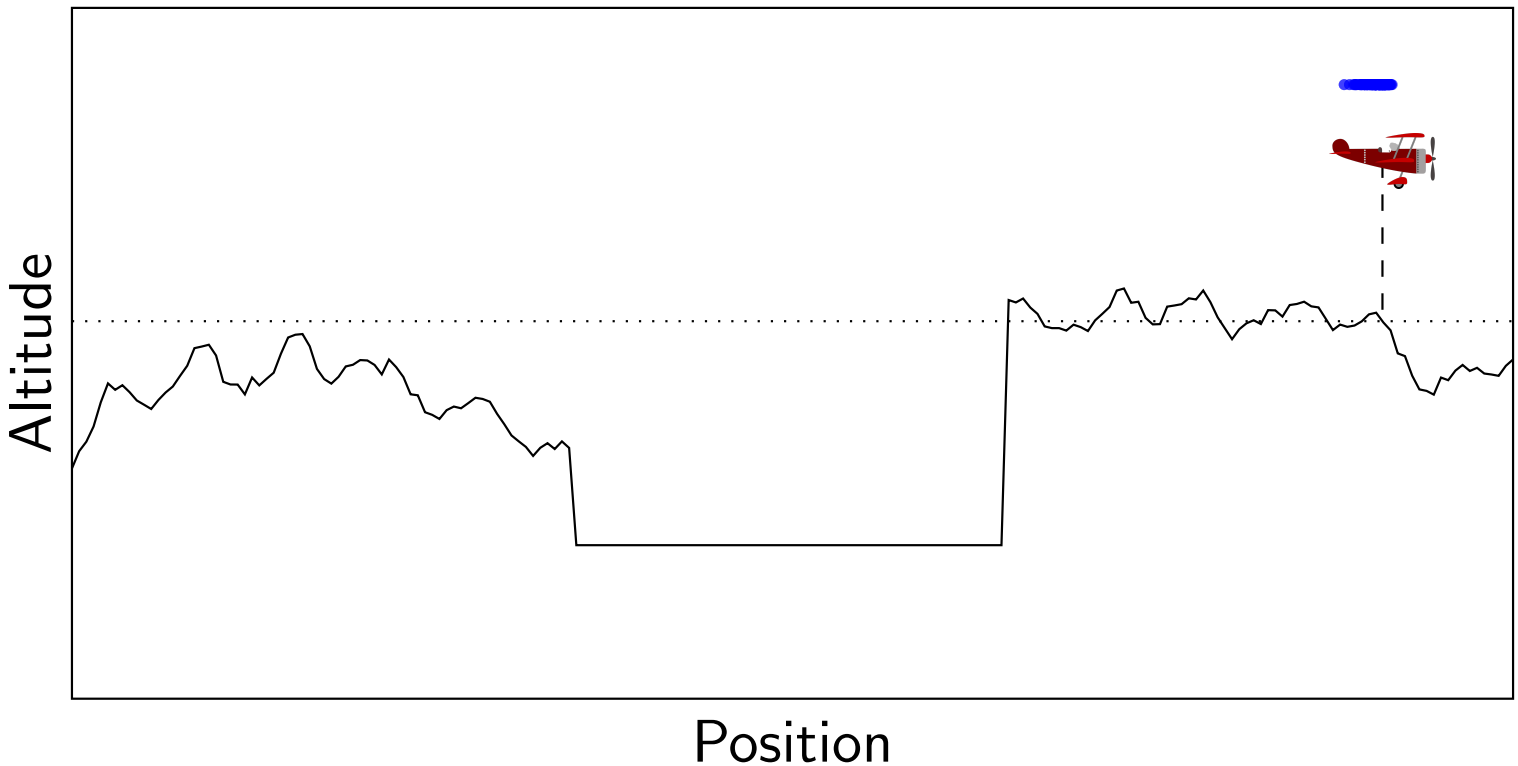
Sequential Monte Carlo inference

Propagate, weigh, resample



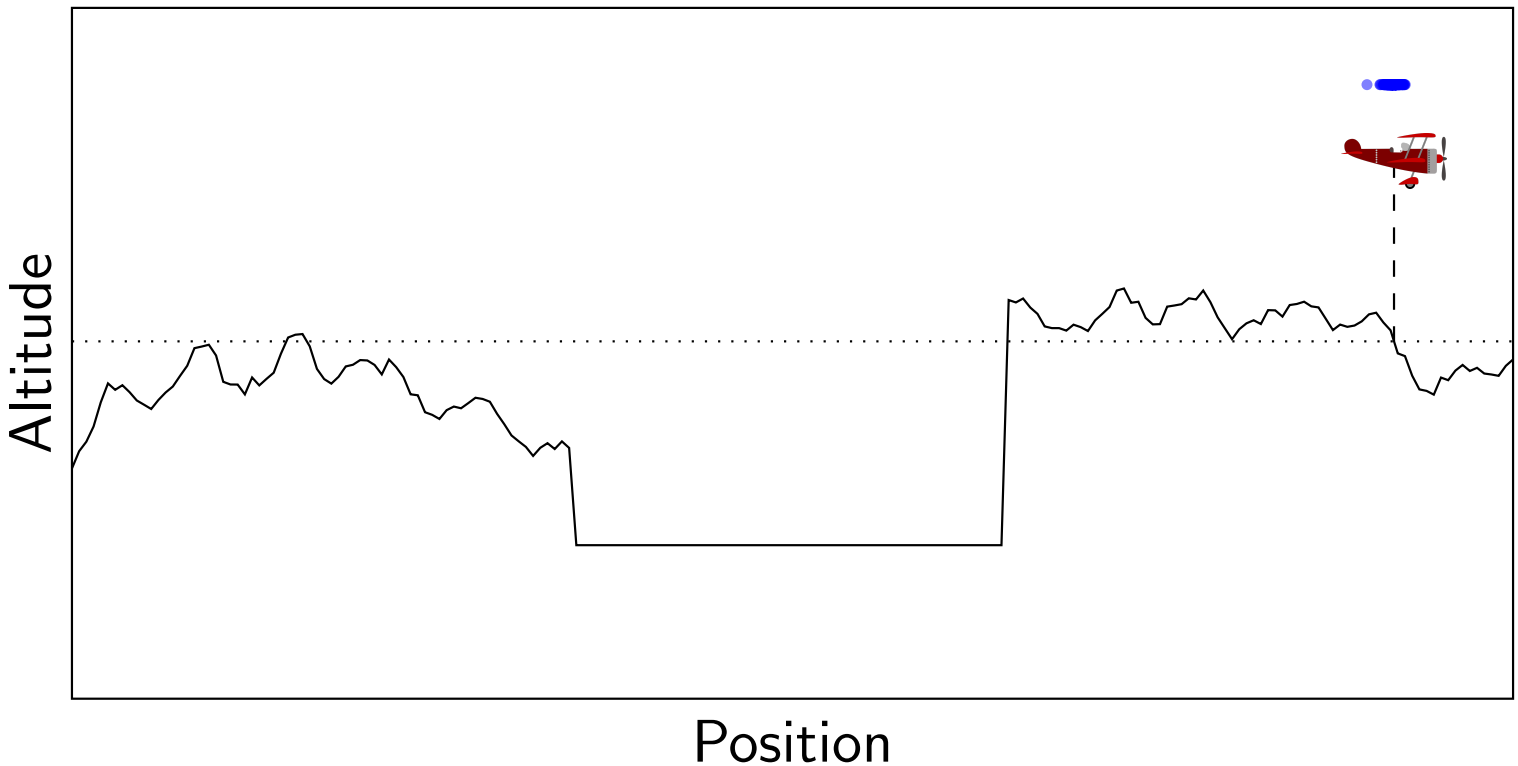
Sequential Monte Carlo inference

Propagate, weigh, resample



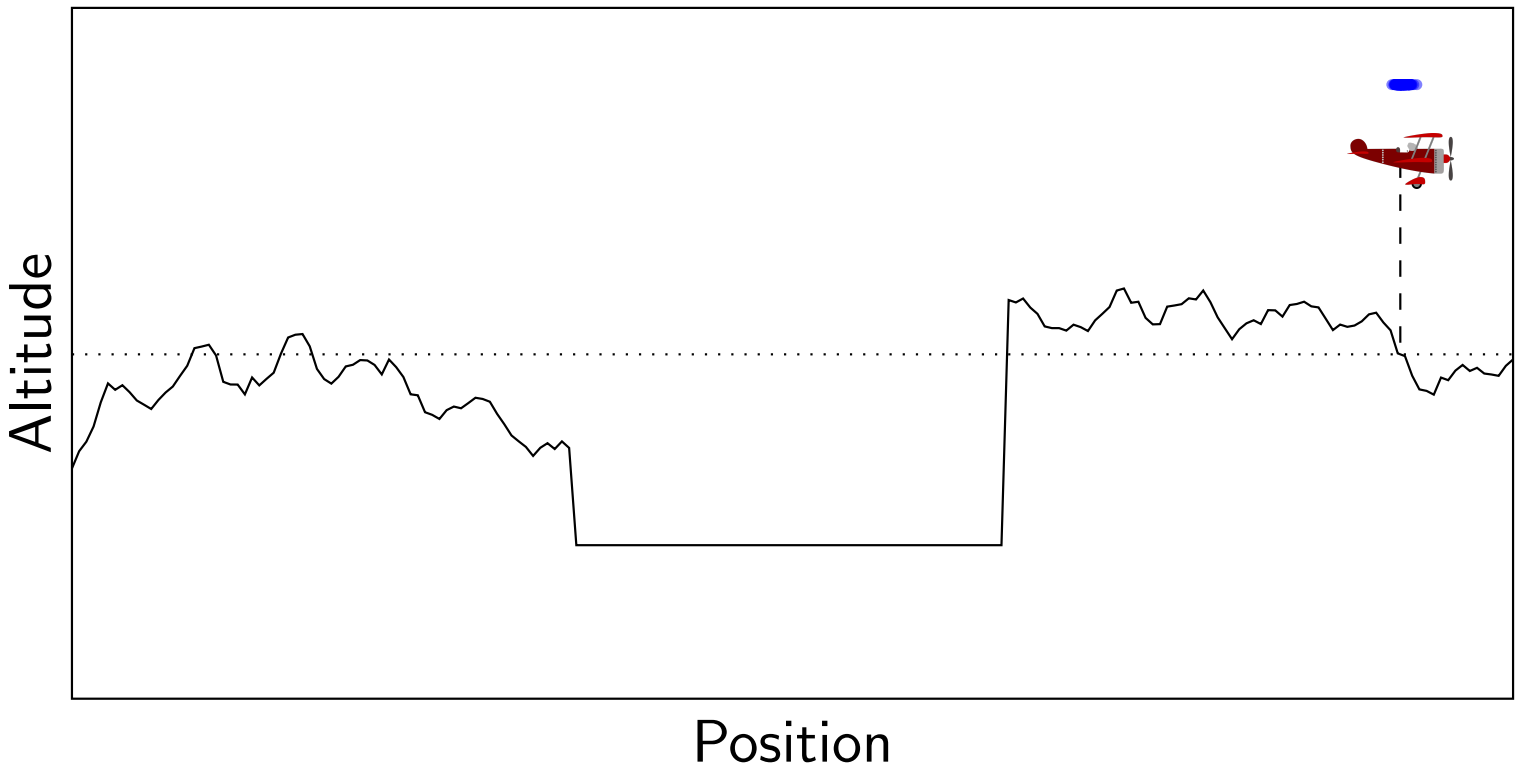
Sequential Monte Carlo inference

Propagate, weigh, resample



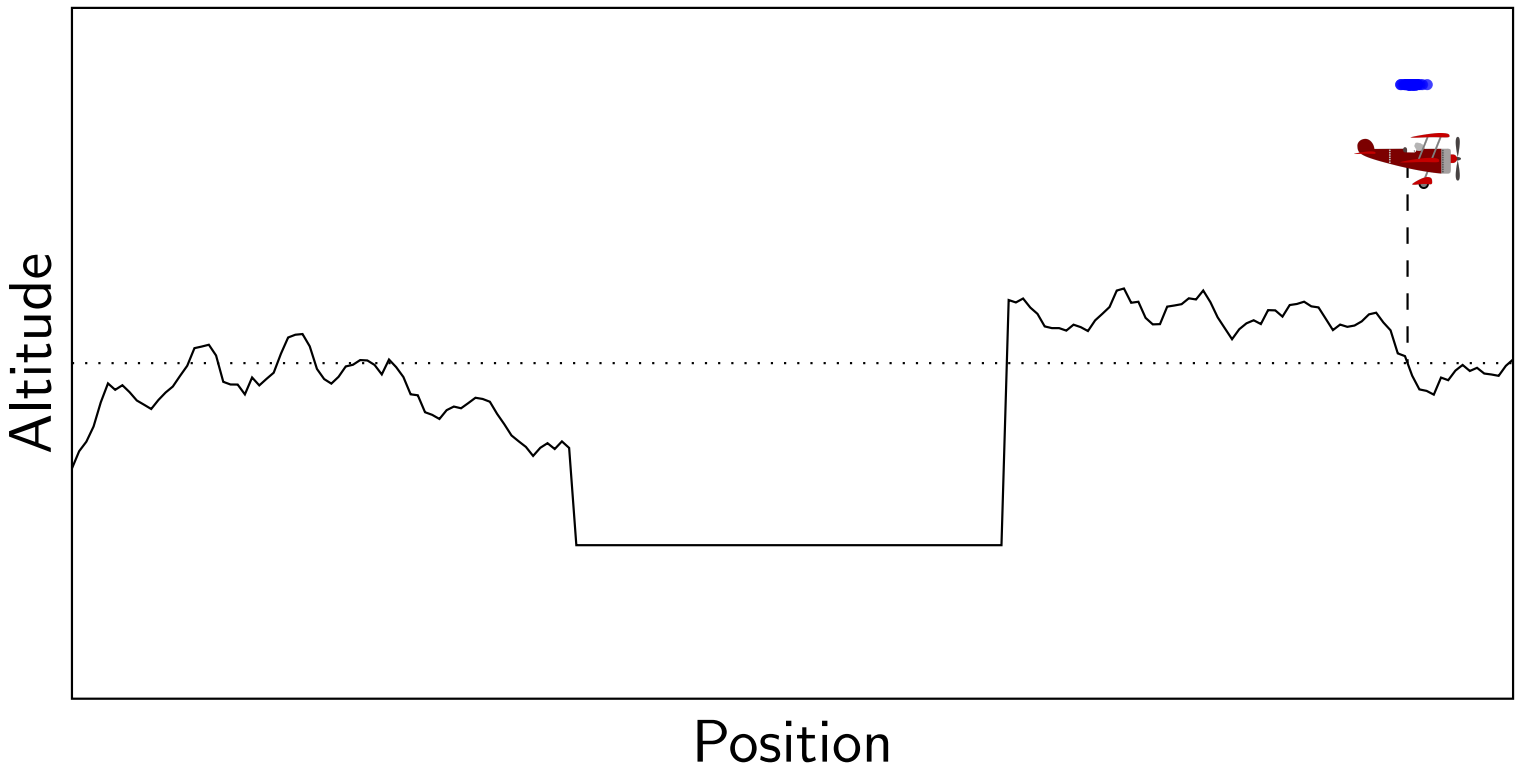
Sequential Monte Carlo inference

Propagate, weigh, resample



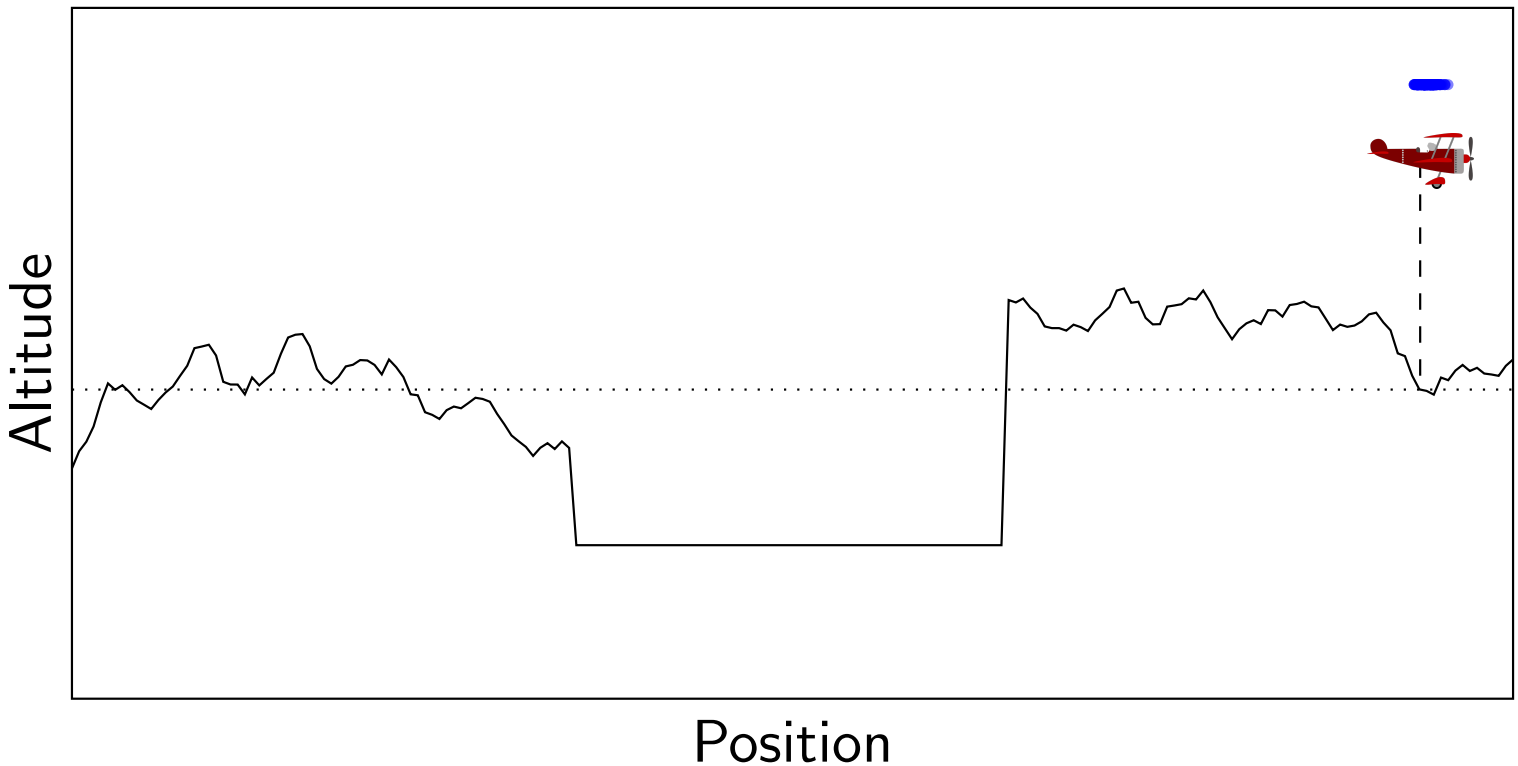
Sequential Monte Carlo inference

Propagate, weigh, resample



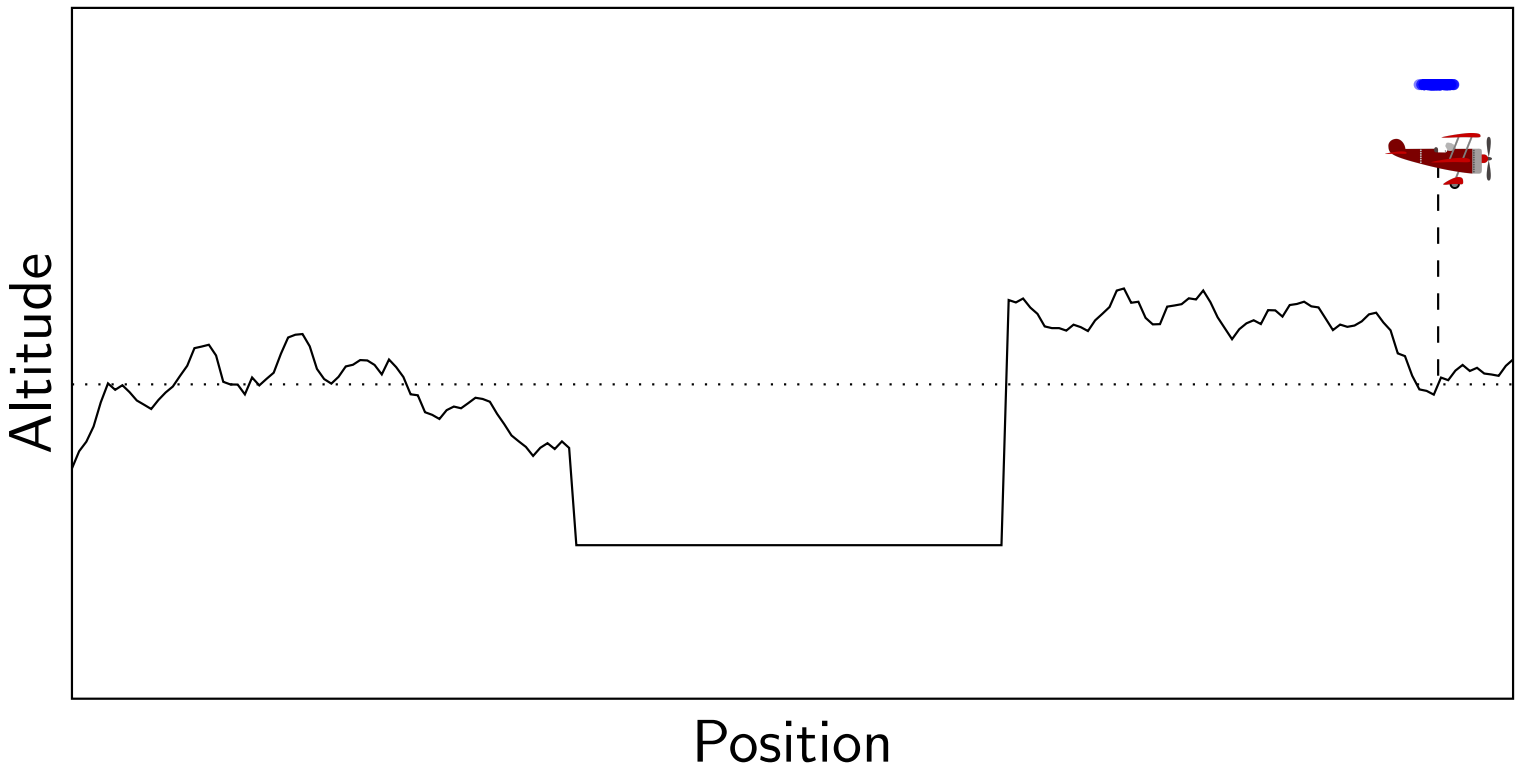
Sequential Monte Carlo inference

Propagate, weigh, resample



Sequential Monte Carlo inference

Propagate, weigh, resample



Sequential Monte Carlo inference

Propagate, weigh, resample