

Probabilistic models

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Bayesian Methods

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Discussion

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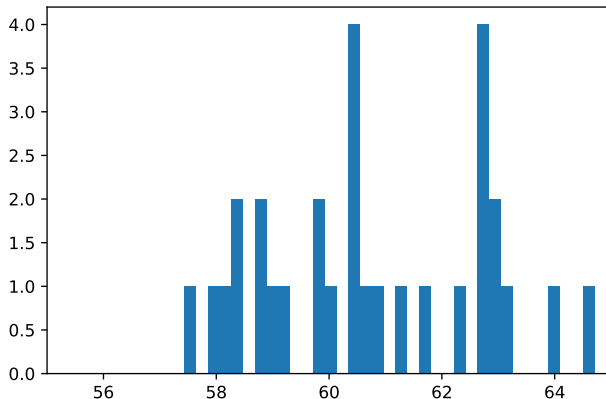
CDS, NYU

March 16, 2021

Bayesian decision for absolute loss is median

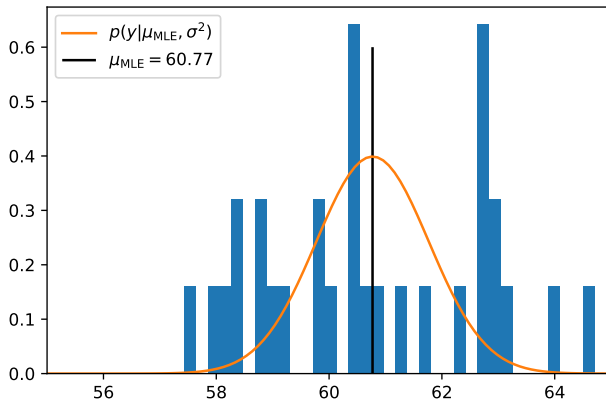
Hours of sun during January in Vienna

- $N = 30$ measurements y_i
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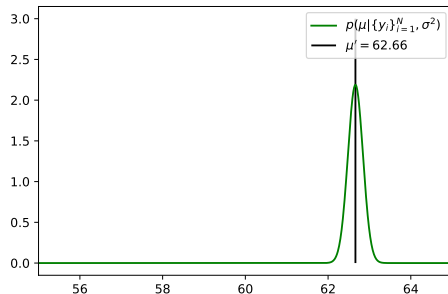
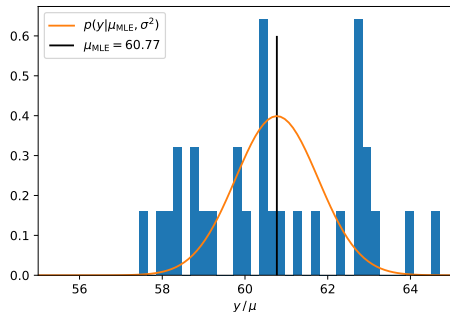


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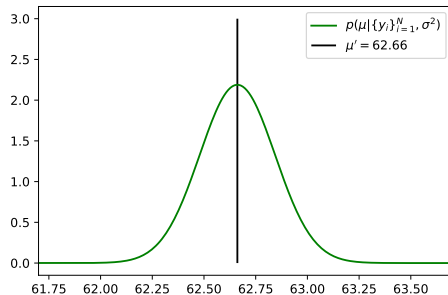
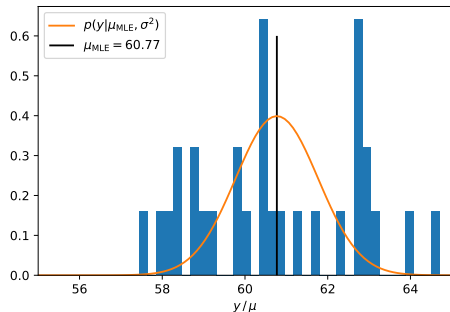
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- What is the posterior? What is the credible set?



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- Now meteorologists tells you they have a prior: $p(\mu) = \mathcal{N}(\mu; \mu_0, 1)$
- The posterior is $p(\mu | \{y_i\}_{i=1}^N, \sigma^2) = \mathcal{N}(\mu; \mu', \sigma'^2)$.
- What are the point estimates of μ minimizing squared loss, absolute loss and 0-1 loss?