this time: memo ↓ next time:

read: (as before)

AMS 206
1 Mar 18

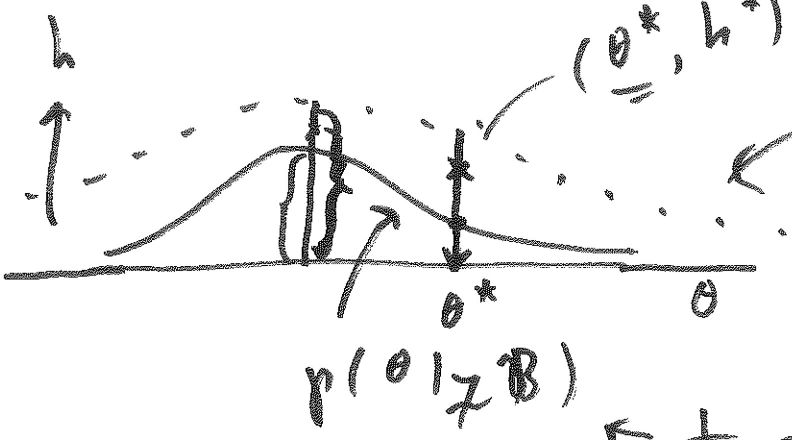
$$p(\underset{\sim}{\theta} \mid \underset{\sim}{y}\, \mathcal{B}) = \boxed{\cancel{c}}^{\,1}\, p(\underset{\sim}{\theta}) \cdot \ell(\underset{\sim}{\theta} \mid \underset{\sim}{y}\, \mathcal{B})$$

$\checkmark$ $\checkmark$

good data science = (mathematical sciences (applied math (optional)) + statistical & ← good) + (Bayesian / frequentist) ✓

team activity

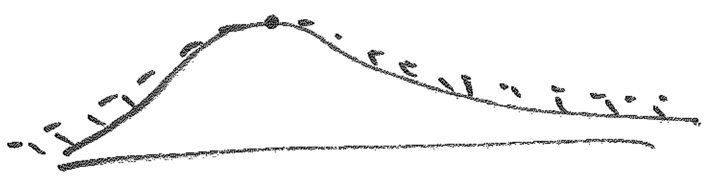
(coding skills (high-level (R)) + low-level (C++, Java)) ok + (hardware skills (profiling, understanding bottlenecks (CPU, memory (RAM), disk))) + (subject matter expertise)

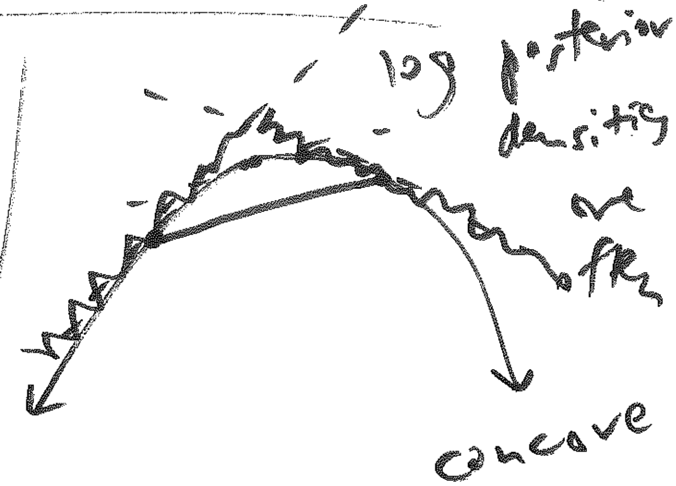


$G(\theta)$ ← envelope "distribution"

← target distribution

$g(\theta)$ = normalized version of $G(\theta)$





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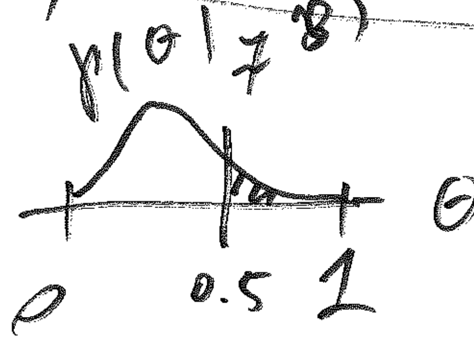
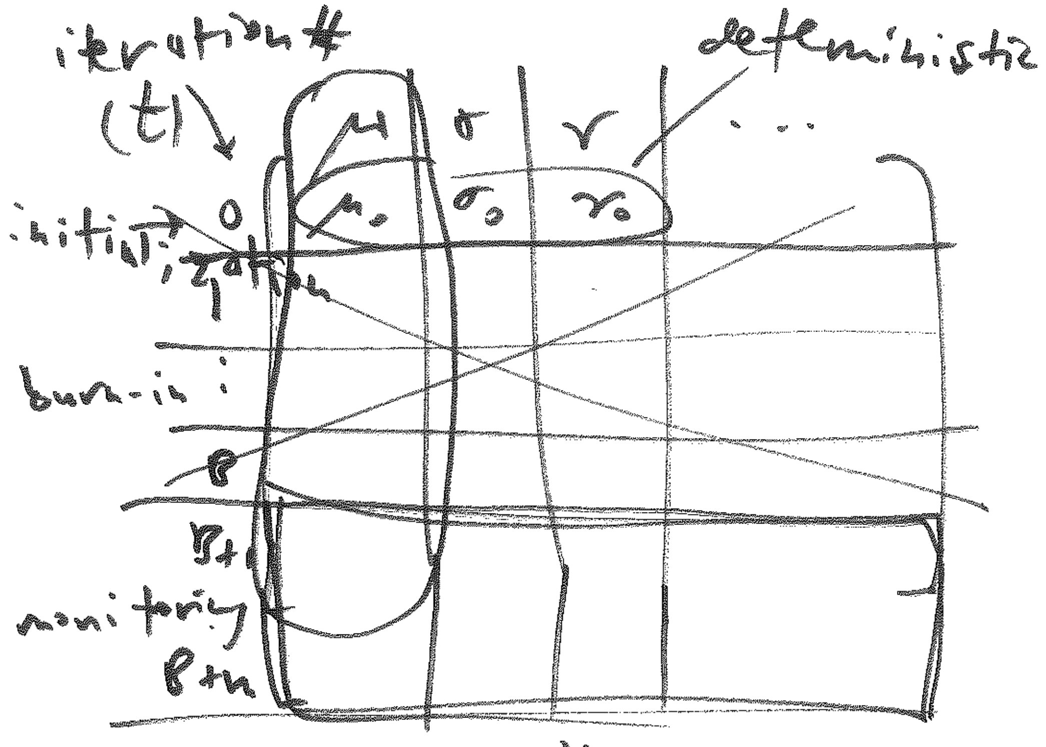
derived quantity

	θ	$I(\theta > 0.5)$
1	$\theta_1^* = .2$	0
2	$\theta_2^* = .9$	1
⋮	⋮	⋮
m	$\theta_m^* = .1$	0



← mean of this column = $\hat{p}_{MC}(\theta > \frac{1}{2} \mid z^B)$

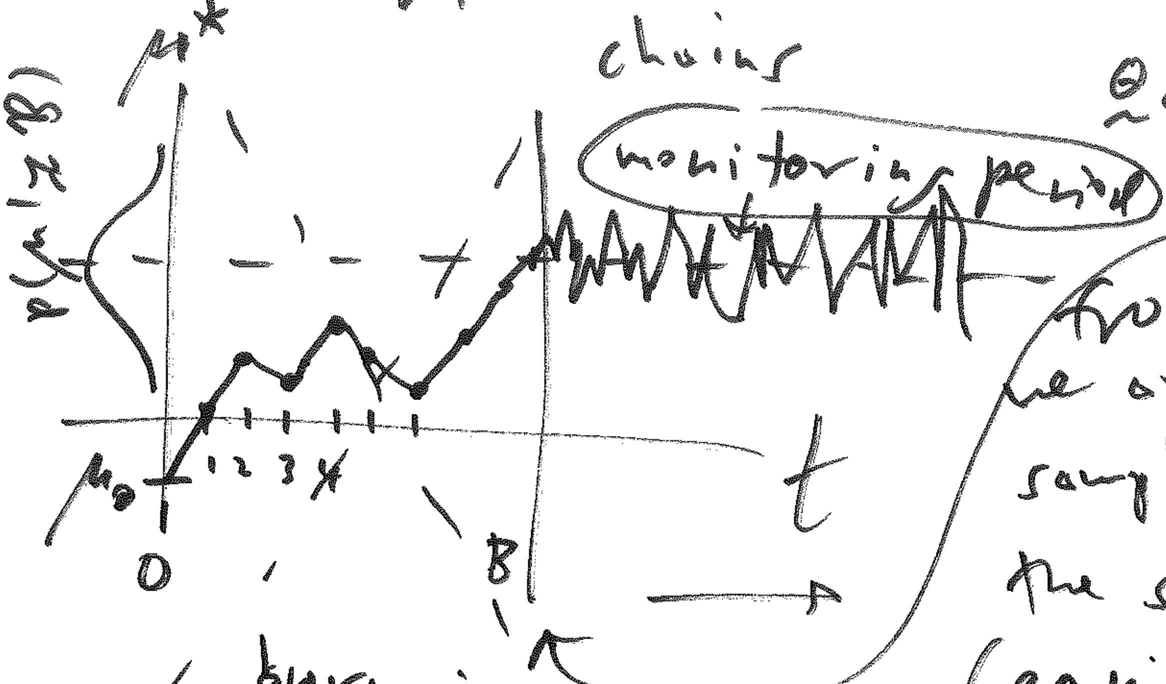


Markov-Chain Monte Carlo (MCMC) dataset

to do list:

- find good initial value: $\underset{\sim}{\theta}_0 = (\mu_0, \sigma_0, \nu_0)$

"nice" Markov chains



burn-in period (discard)

from this point on, we are now sampling from the stationary (equilibrium) distribution of the Markov chain