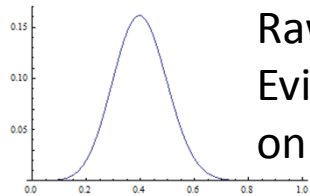


Uncertain? Represent your belief with...

SOPD Second-Order Probability Distributions

$y = 10, n = 25;$

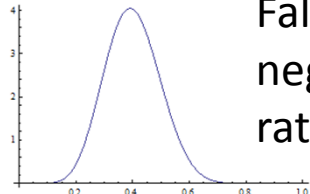


Raw
Evidence
on $P(s)$

➤ Propagation in
Bayesian Networks

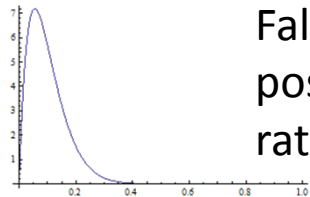
➤ More **general** than
interval, possibility and
belief functions

$\alpha = 10, \alpha\beta = 15$

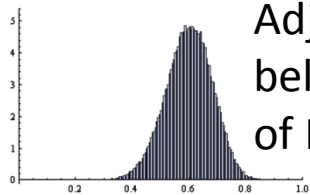


False
negative
rate α

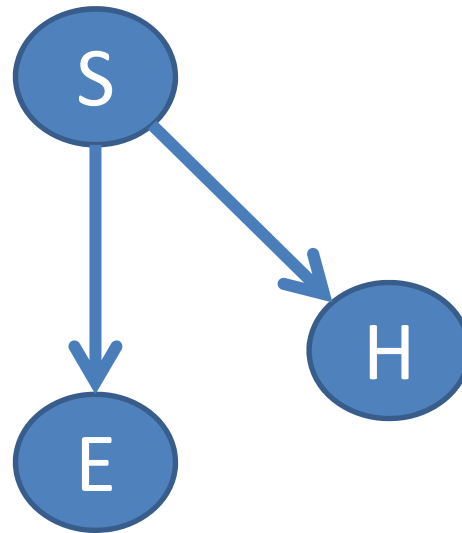
$\beta\alpha = 2, \beta\beta = 18$



False
positive
rate β



Adjusted
belief
of $P(s)$



➤ Useful for **risk analysis**
and **uncertain evidence**

➤ Tractable with **Monte Carlo** simulation