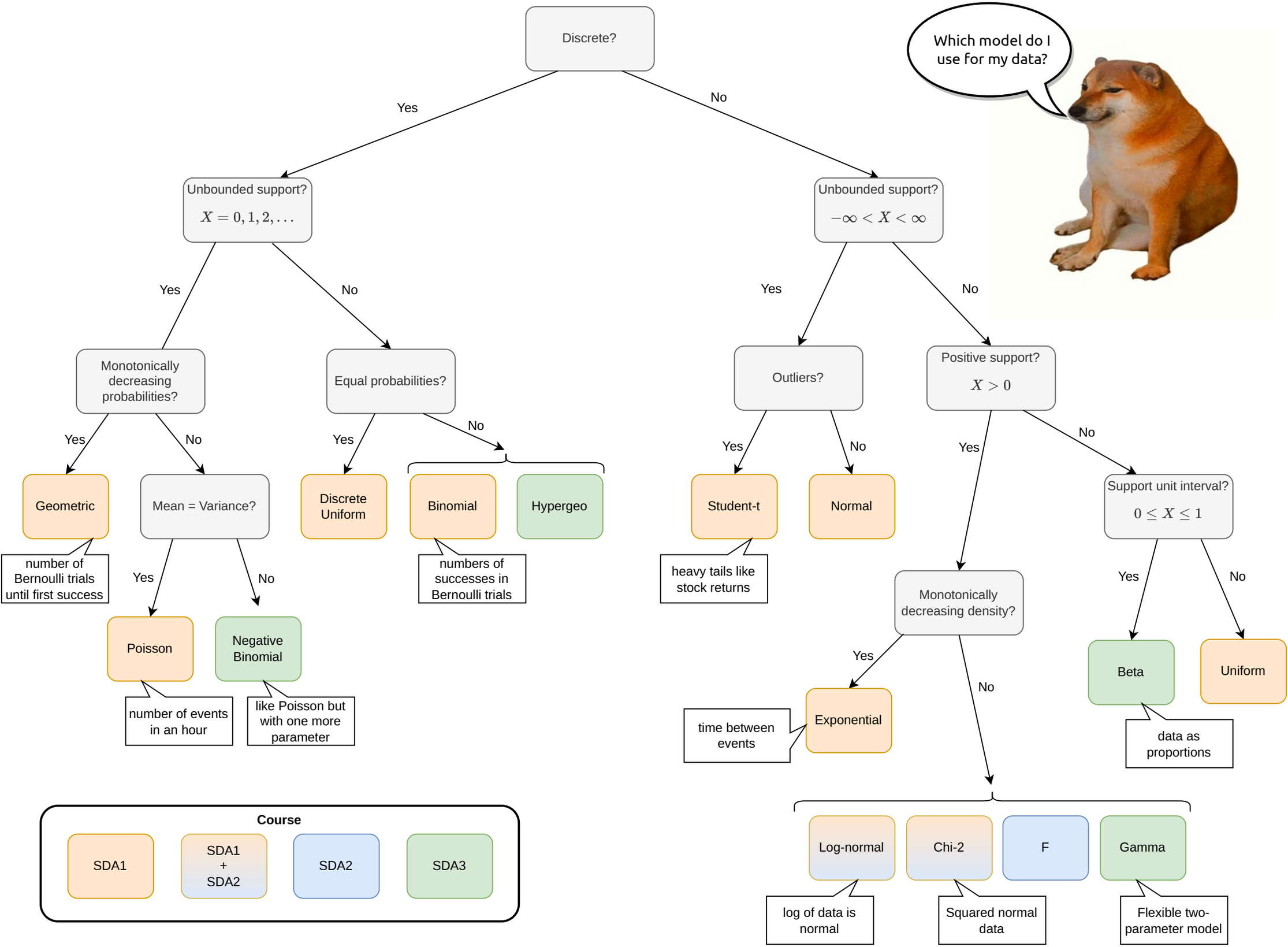
Discrete?
Yes
No
Unbounded support?
$X = 0, 1, 2, \ldots$
Unbounded support?
$-\infty < X < \infty$
Yes
No
Monotonically decreasing probabilities?
Equal probabilities?
Yes
No
Yes
No
Geometric
Mean = Variance?
Discrete Uniform
Binomial
Hypergeo
number of Bernoulli trials until first success
numbers of successes in Bernoulli trials
Yes
No
Poisson
Negative Binomial
number of events in an hour
like Poisson but with one more parameter
Outliers?
Positive support?
$X > 0$
Yes
No
Yes
No
Student-t
Normal
heavy tails like stock returns
Monotonically decreasing density?
Support unit interval?
$0 \leq X \leq 1$
Yes
No
Yes
No
Exponential
time between events
Beta
Uniform
data as proportions
Log-normal
Chi-2
F
Gamma
log of data is normal
Squared normal data
Flexible two-parameter model
Course
SDA1
SDA1 + SDA2
SDA2
SDA3
Which model do I use for my data?