

CSCI 5582

Artificial Intelligence

Lecture 14
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Today 10/17

- Review basics
- More on independence
- Break
- Bayesian Belief Nets

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Review

- Joint Distributions
- Atomic Events
- Independence assumptions

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Review: Joint Distribution

	Toothache=True	Toothache=False
Cavity True	0.04	0.06
Cavity False	0.01	0.89

•Each cell represents a conjunction of the variables in the model.

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Atomic Events

- The entries in the table represent the probabilities of **atomic events**
 - Events where the values of all the variables are specified

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Independence

- Two variables A and B are independent iff $P(A|B) = P(A)$. In other words, knowing B gives you no information about A .
- Or $P(A \wedge B) = P(A|B)P(B) = P(A)P(B)$
 - I.e. Two coin tosses

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