## CS70

# Continuous Probability 

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## Overview

(1) Probability Density Function
(2) Cumulative Distribution Function
(3) Continuous Joint Distribution

4 Expectation and Variance
(5) Uniform Distribution
(6) Exponential Distribution

## Probability Density Function

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Remark: $f(x)$ is not probability of anything and does not have to be bounded by 1 ! One example is $U\left[0, \frac{1}{2}\right]$ where $f(x)=2>1 . f(x)$ actually represents the density, or probability per unit length vicinity of $x$ !

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We interpret $f(x, y)$ as the probability per unit area in the vicinity of $(x, y)$.

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## Problem Time!

