

# The WebGraph

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## 1 Web Graph: pages and links

- \* the modern web
- \* HTML format
- \* size and scale

### 1.1 Size and Scale

### 1.2 Constructing the Web Graph

## 2 Graphs Recap

### 2.1 DFS, BFS traversals

### 2.2 In/Out Degrees

### 2.3 Graph Cut

## 3 Page Rank

### 3.1 Markov Chains Introduction

- \*Memoryless
- \*Ergodicity, Periodicity
- \*Applications

### 3.2 Iterative Model Updates

### 3.3 The Stationary Distribution

- \* converging approach
- \* linear algebra approach
- \* physical simulation

### 3.4 Teleportation

### 3.5 Topic Specific Page Rank

## 4 HITS (Hyperlink-Induced Topic Search)

- \* intro
- \* also known as "Hubs and Authorities"

## **4.1 Bipartite Graphs**

## **4.2 Hubs and Authorities**

\* circular definition \* examples

## **4.3 Hubs Update**

## **4.4 Authorities Update**

# **5 Graph Visualization**