CS6322: Information Retrieval
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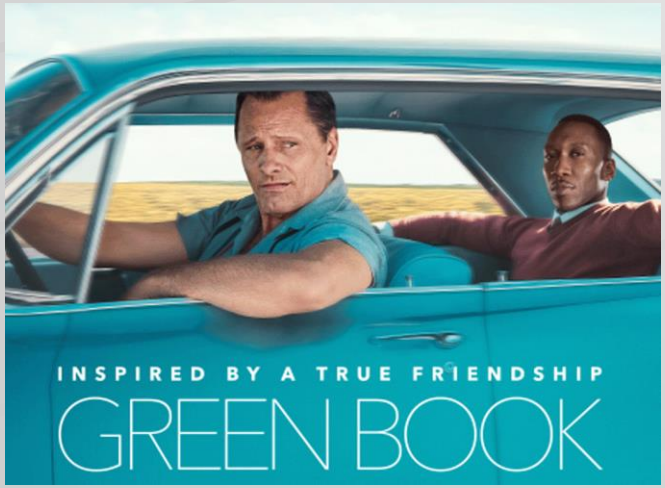
Projects Spring 2025

Engines

Project # 1

- Search Engine for **Movie Awards : 5 students**
  - **STUDENT 1: Crawl 100 000 pages from Oscars.org, Wikipedia, News Corp. Web pages**
    - **E.g. Start from:**



Winners: Best Picture, Best Supporting Actor, etc …

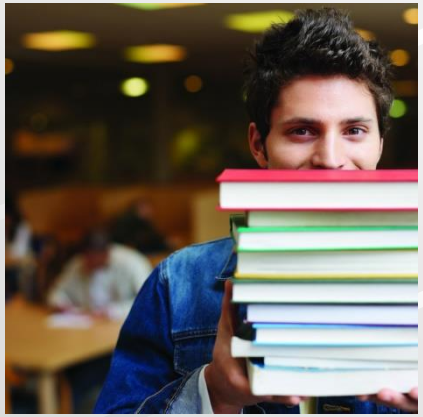
- **Green Book**
- Director: Peter Farrelly
- Awards: Academy Award for Best Picture, MORE
- Screenplay: Peter Farrelly, Nick Vallelonga, Brian Currie

Project # 1 - continued

- Search Engine for **Movie Awards : 5 students**
  - **Crawl 100 000 pages from imdb.com**
    - **Continue crawling:**

Best Director:
Alfonso Cuaron
ROMA:
- **Director:**
- Alfonso Cuarón
- **Writer:**
- Alfonso Cuarón
- **Stars:**
- Yalitza Aparicio, Marina de Tavira, Diego Cortina Autrey |

1 Student responsible for ***crawling***



Project # 1 - continued

- Search Engine for **Movie Awards : 5 students**
  - **STUDENT 2: Index 100 000 pages & Create the WEB graph + use index and the graph to develop 2 relevance models + Topic-specific Page Ranking + HITS to rank the results**

1 Student responsible for
Indexing and relevance

Project # 1 - continued

- Search Engine for **Academy Awards**
  - **STUDENT 3: Prepare the Graphical User Interface for:**
    - **Introducing the query**
    - **Presenting the results (including the clusters and query expansions)**
    - **Showcasing the results from Google and Bing for the same query**
      - **In 2 additional frames on the same web page**
      - **The results should consist of three frames on the same page:**

1. **Results of your search engine**
2. **Results from Google**
3. **Results from Bing**

Student responsible for :
User interfaces and
Comparisons with Google
And Bing

Project # 1 - continued

- Search Engine for **Movie Awards – *Additional Improvements***

  - **STUDENT 4: Cluster the web pages to improve results:**
    - **Use flat clustering**
    - **Use 4 methods of agglomerative clustering**
    - **Provide experimental results for 50 queries**
      - **with and without clustering**

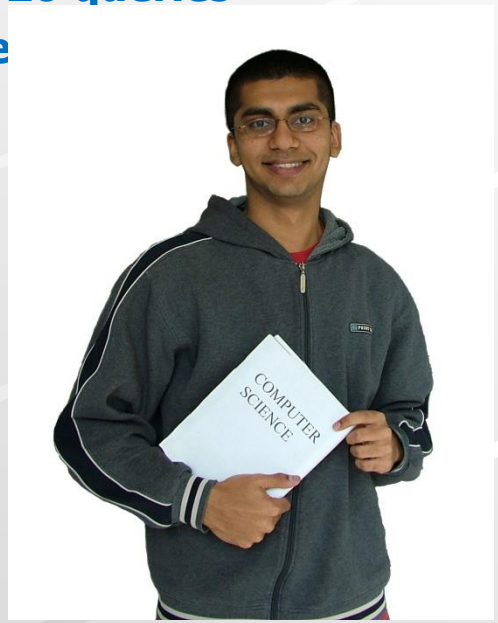
1 Student responsible for :
Clustering & experiments

Project # 1 - continued

- Search Engine for **Movie Awards – further improvements**

  - **STUDENT 5: Query expansion through pseudo-relevance feedback:**
    - **Implement the Rocchio algorithm and test it on 20 queries**
    - **Use for automatic query expansion for 50 queries**
      - **association clusters,**
      - **metric clusters**
      - **Scalar clusters**
    - **Provide experimental results for 50 queries**

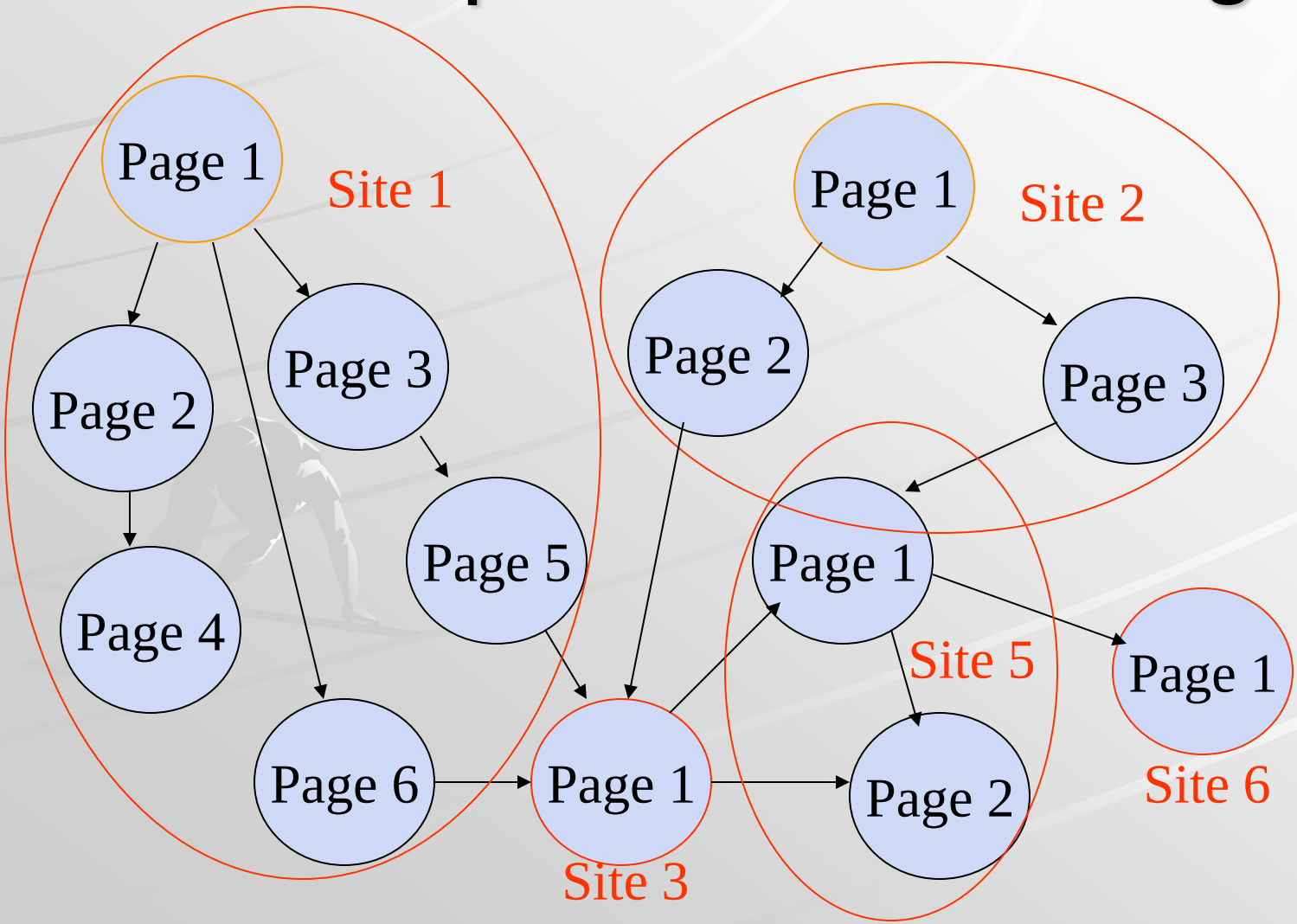
1 Student responsible for :
Relevance feedback and
Query expansion



Web Crawlers

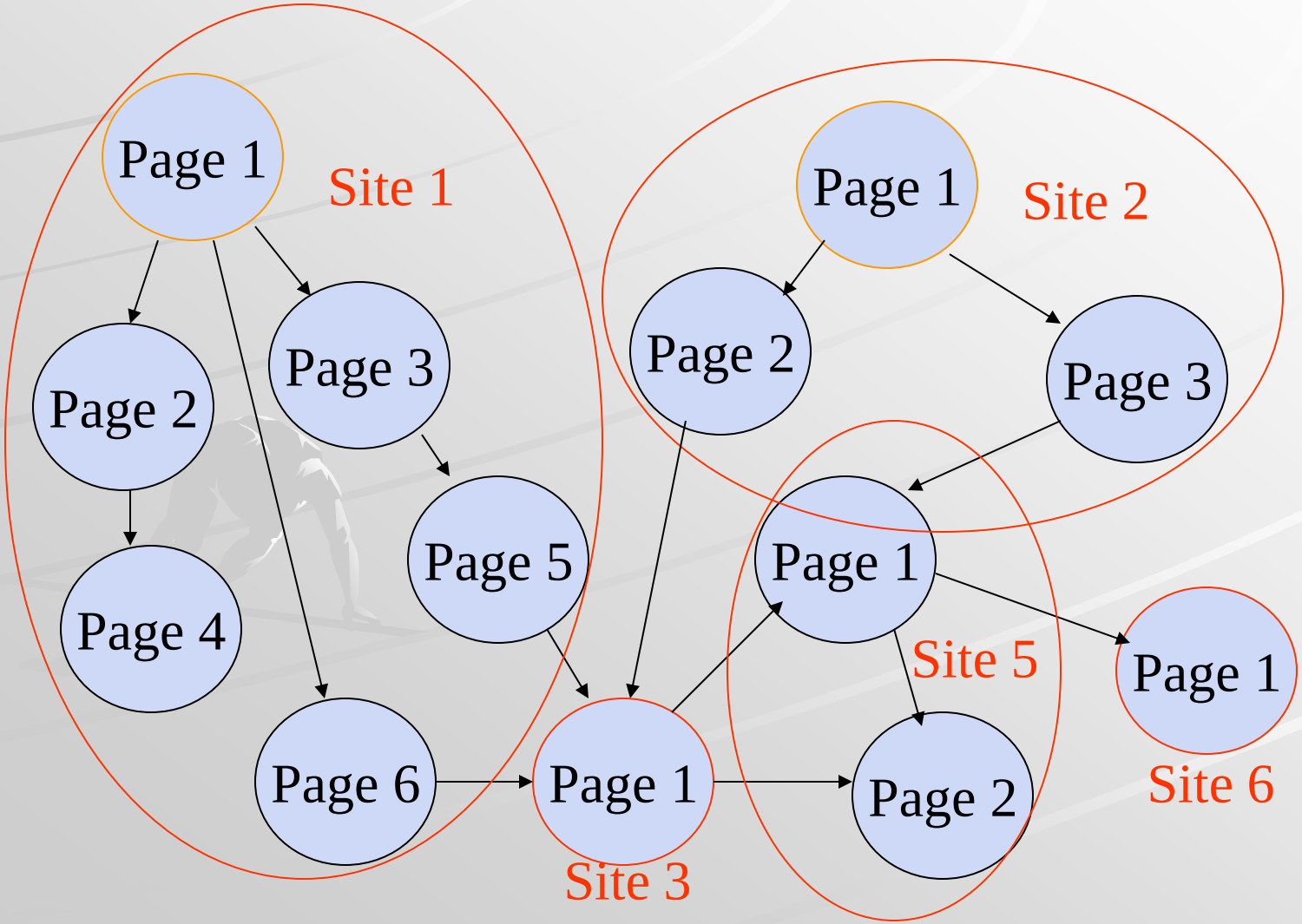
- How do the web search engines get all of the items they index?
- How much stuff is out there?
- How do you store millions of words from hundreds of sites so that you can find them quickly (and efficiently)?

Depth-First Crawling



Site	Page
1	1
1	2
1	4
1	6
1	3
1	5
3	1
5	1
6	1
5	2
2	1
2	2
2	3

Breadth First



Site	Page
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2	3
1	4
3	1
1	5
5	1
5	2
6	1

Additional Search Engines

- 5 students
- Search Engine for **Countries/ Wikipedia**
- Search Engine for **Travel/ TripAdisor**
- Search Engine for **Books**
- Search Engine for **Startups/ TechCrunch**
- Search Engine for **Painting/ Museums**
- Search Engine for **Tennis/ Wimbledon+Roland Garros+..**
- Search Engine for **Soccer/ World Cup+..**
- Search Engine for **Olympics/ Sports web pages**
- Search Engine for **Politics/ Election Web sites**