Agenda

HW3 Live Grading
Paper Review Recap
Conference Organization
Assignment
An Evaluation of the Ninth SOSP Submissions or How (and How Not) to Write a Good Systems Paper by Roy Levin and David D. Redell

How NOT to review a paper The tools and techniques of the adversarial reviewer by Graham Cormode
Classes of papers

Survey
New algorithms
New datasets
New applications of old ideas
Model/theory/understanding
Criteria for Evaluation

Original Ideas
Reality
Lessons
Choices
Context
Focus
Presentation
Coping with Criticism

Keep it professional
Don’t take it personally
Understand it
Respond at the right time
Challenge as appropriate

http://ckscience.co.uk/candidate/career-zone/work-place-advice/5-ways-to-deal-with-criticism-at-work/

Do unto others as you would have them do to you. – (lots of places)
A Paper Review

“While the exercise is useful, the paper does not have any new concepts or implementation caveats that I think are worth publishing. All of the design description seems straightforward integration of existing systems. The evaluation is also very weak.”

--- excerpt from a review received by the instructor
A Paper Review

“Despite the limited practical applicability, I find the paper interesting for the sheer courage to try something out of the ordinary and to properly explore its limits.”

-- excerpt from a review received by the instructor
How to Review a Paper?

• Form and Content

• Parts of a paper
  – What do you expect in each paper?
How to Review a Paper? - Considerations

- Novelty
- Importance
- Generality
- Rigor
- Insights
We looked at a few examples of paper reviews.
Conference Organization

Different roles

- General Chair
- Finance Chair
- Arrangement Chair
- Technology Chair
- Program Chair
- Publication Chair
- Technical Program Committee

Schedule for activities
We formed the organization and technical program committee for the conference. We also decided tentative schedule for the conference.
Eigenfaces for Recognition

[Turk ’91]

“We have developed a near-real-time computer system that can locate and track a subject’s head, and then recognize the person by comparing the characteristics of the face to those of known individuals.”
Scenarios and metrics from [Turk ‘91]

Figure 9. Results of experiments measuring recognition performance using eigenfaces. Each graph shows averaged performance as the lighting conditions, head size, and head orientation vary—the y-axis depicts number of correct classifications (out of 16). The peak (16/16 correct) in each graph results from recognizing the particular training set perfectly. The other two graph points reveal the decline in performance as the following parameters are varied: (a) lighting, (b) head size (scale), (c) orientation, (d) orientation and lighting, (e) orientation and size (#1), (f) orientation and size (#2), (g) size and lighting, (h) size and lighting (#2).
The Anatomy of a Large-Scale Hypertextual Web Search Engine

[Brin and Page ’98]

What hypothesis, scenarios, and metrics should we expect to see in this paper?
5 Results and Performance

The most important measure of a search engine is the quality of its search results. While a complete user evaluation is beyond the scope of this paper, our own experience with Google has shown it to produce better results than the major commercial search engines for most searches. As an example which illustrates the use of PageRank, anchor text, and proximity, Figure 4 shows Google’s results for a search on "bill clinton". These results demonstrate some of Google’s features. The results are clustered by server. This helps considerably when sifting through result sets. A number of results are from the whitehouse.gov domain which is what one may reasonably expect from such a search. Currently, most major commercial search engines do not return any results from whitehouse.gov, much less the right ones. Notice that there is no title for the first result. This is because it was not crawled. Instead, Google relied on anchor text to determine this was a good answer to the query. Similarly, the fifth result is an email address which, of course, is not crawlable. It is also a result of anchor text.

All of the results are reasonably high quality pages and, at last check, none were broken links. This is largely because they all have high PageRank. The PageRanks are the percentages in red along with bar graphs. Finally, there are no results about a Bill other than Clinton or about a Clinton other than Bill. This is because we place heavy importance on the proximity of word occurrences. Of course a true test of the quality of a search engine would involve an extensive user study or results analysis which we do not have room for here. Instead, we invite the reader to try Google for themselves at http://google.stanford.edu.

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Query: bill clinton
http://www.whitehouse.gov/
100.00% (no date) (8K)
http://www.whitehouse.gov/
99.67% (Dec 23 1996) (2K)
Welcome To The White House
99.98% (Nov 9 1997) (5K)
http://www.whitehouse.gov/WH/Welcome.html
Send Electronic Mail to the President
99.86% (Jul 14 1997) (5K)
http://www.whitehouse.gov/WH/Mail/html/Mail_President.html
mailto:president@whitehouse.gov
99.98%
mailto:President@whitehouse.gov
99.27%
The "Unofficial" Bill Clinton
94.06% (Nov 11 1997) (14K)
http://zpub.com/un/un-bc.html
Bill Clinton Meets The Shriners
86.27% (Jun 29 1997) (63K)
President Bill Clinton - The Dark Side
97.27% (Nov 10 1997) (15K)
http://www.realchange.org/clinton.htm
$3 Bill Clinton
94.73% (no date) (4K)
http://www.gatewy.net/~sjones/clinton1.html

Figure 4. Sample Results from Google

[Brin and Page ’98]
Why did the authors decide to report these measurements?

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<th>Storage Statistics</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Size of Fetched Pages</td>
<td>147.8 GB</td>
</tr>
<tr>
<td>Compressed Repository</td>
<td>53.5 GB</td>
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<tr>
<td>Short Inverted Index</td>
<td>4.1 GB</td>
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<td>Lexicon</td>
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<tr>
<td>Temporary Anchor Data</td>
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<tr>
<td>(not in total)</td>
<td></td>
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<tr>
<td>Document Index Incl.</td>
<td>9.7 GB</td>
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<tr>
<td>Variable Width Data</td>
<td></td>
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<tr>
<td>Links Database</td>
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<tr>
<td><strong>Total Without Repository</strong></td>
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<tr>
<td><strong>Total With Repository</strong></td>
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<table>
<thead>
<tr>
<th>Web Page Statistics</th>
<th></th>
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<tbody>
<tr>
<td>Number of Web Pages Fetched</td>
<td>24 million</td>
</tr>
<tr>
<td>Number of Urls Seen</td>
<td>76.5 million</td>
</tr>
<tr>
<td>Number of Email Addresses</td>
<td>1.7 million</td>
</tr>
<tr>
<td>Number of 404’s</td>
<td>1.6 million</td>
</tr>
</tbody>
</table>

Table 1. Statistics

[Brin and Page ’98]
Metrics/Experiments?

Accurately Initializing Real Time Clocks to Provide Synchronized Time in Sensor Networks

CTP: An Efficient, Robust, and Reliable Collection Tree Protocol for Wireless Sensor Networks

On the Effectiveness of Energy Metering on Every Node

Surviving Sensor Network Software Faults
HW4 – Metrics and Experiments

Identify/study metrics and experiments in the papers.