



# Context & Relevance

Tobias Scheffer

## Discriminative Context Recognition

- Identify latent context parameters that influence relevance.
  - ◆ Graphical, statistical models, Dirichlet processes.
- Map query & situation to values of context parameters.
  - ◆ Discriminative learning, structured input output spaces.
- Judge relevance in given context.
  - ◆ Topic sensitive page rank.

Web [Images](#) [Groups](#) [News](#) [Froogle](#) [Local](#) [Desktop](#)

good collaborator for EU project

Google Search I'm Feeling Lucky

Isabel (5) Julinda

Fabio (10) Douwe (30) Patrik (32) Leslie (11)

view network view friends

her communities (33)

Valve Games (11) CMU SCS [332] Complexity of Puzzles & Games

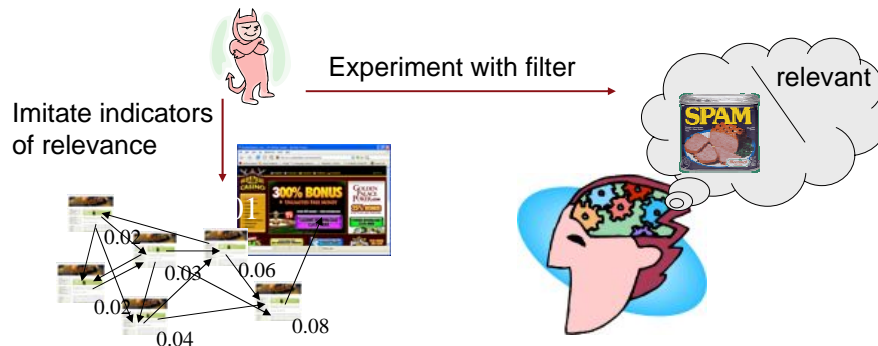
Charlemagne  
rue de la Loi  
178

13:30 - 15:40 Views of research scientists (20 min/presentation)  
Dr. Noëlla Boujemaas, Research Director INRIA, Head of IMEDIA project  
Prof. Gerhard Widmann, Max Planck Institute: Next Generation FDR Search Engines  
Prof. Dr. Wolfgang Nejdl, LIS Research  
Dr. Christine Rees, JISC, EDINA project  
Prof. Stefan Wrobel, Fraunhofer Institute  
Prof. Dr. Hans Burkhardt, Albert-Ludwigs-University Freiburg  
Dr. Leo Waaijers, Surf  
Prof. Wray Burton, Helsinki Institute for Information Technology

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## Relevance in an Adversarial Context

- Adversary imitates relevance in response to ranking mechanism employed by IR engine.
- Possible to maintain consistently useful ranking?
  - ◆ Semi-supervised learning, concept drift, game theory?



## Related Projects, Prior Work

- Project with web provider Strato.
  - ◆ Spam filter shields 3 million accounts, 15 million emails daily.
  - ◆ Spam senders react immediately to filter updates.
- Project with DaimlerChrysler: IR in workshop data.
  - ◆ Identify latent causes in damage reports.
- KDD Cup 2005: Mapping SE queries to taxonomy nodes.
  - ◆ Scored 2nd [Vogel et al., SIGKDD Explorations 2006].
- Discriminative classification, structured input output spaces [Brefeld et al., ECML 2005 Best Paper].
- Adversarial IR, link spam [Drost & Scheffer, 2005].

