

Probabilistic Models for Uncertain Data

Pierre Senellart
Télécom ParisTech
Département Informatique et Réseaux
46 rue Barrault, 75634 Paris Cedex,
France
pierre@senellart.com

ABSTRACT

Uncertainty is ubiquitous in the outcome of many automatic processes (such as information extraction, natural language analysis, machine learning, data integration) or for all tasks that involve human judgment, contradicting information, or measurement errors. This uncertainty can be captured by probabilistic models – probabilistic information can now be stored, queried, updated, aggregated in a well-founded manner. This talk will provide concrete motivation for probabilistic data management, review some of the most important models for probabilistic data (tables, trees) and present some of the important results in this research area, both theoretical and applied. A concrete example of the use of a probabilistic data management system will also be demonstrated.

interests focus around theoretical aspects of database management systems and the World Wide Web, and more specifically on the intentional indexing of the deep Web, probabilistic XML databases, and graph mining. He also has an interest in natural language processing, and has been collaborating with SYSTRAN, the leading machine translation company.

Categories and Subject Descriptors

H.2.4 [System]: Distributed Database/ Object-oriented databases

General Terms

Algorithms, Management, Probabilistic, Computing, Data, Uncertainty.

Keywords

Uncertainty; Probabilistic Model; Data Management; Ubiquitous; Automatic Process.

Biography

Dr. Pierre Senellart is an Associate Professor in the DBWeb team at Telecom ParisTech, the French leading engineering school specializing in information technology. He is an alumnus of the Ecole normale supérieure and obtained his M.Sc. (2003) and his Ph.D. (2007) in computer science from Université Paris-Sud, studying under the supervision of Serge Abiteboul. He was awarded an Habilitation à diriger les recherches in 2012 from Université Pierre et Marie Curie. Pierre Senellart has published articles in internationally renowned conferences and journals (PODS, AAI, VLDB Journal, Journal of the ACM, etc.) He has been a member of the program committee and participated in the organization of various international conferences and workshops (including PODS, WWW, VLDB, SIGMOD, ICDE). He is also the Information Director of the Journal of the ACM. His research

Permission to make digital or hard copies of part or all of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. Copyrights for third-party components of this work must be honored. For all other uses, contact the Owner/Author.

Copyright is held by the owner/author(s).
SoICT '13, Dec 05-06 2013, Danang, Viet Nam
ACM 978-1-4503-2454-0/13/12.
<http://dx.doi.org/10.1145/2542050.2542051>