Loïc MAISONNASSE
D.O.B. 12-09-1981
Laboratoire d'Informatique de Grenoble
385, rue de la Bibliothèque
B.P. 53 – 38041 Grenoble Cedex 9 – France
E-mail: loic.maisonnasse@imag.fr
Phone office: (+33) 4 76 51 44 86
Phone mobile: (+33) 6 83 20 47 02

Ph.D. in Computer Science

Professional experience

2007-2008	**University Pierre Mendes France, LIG laboratory, Grenoble, France,** *Researcher and Teacher in computer science, IUT2 informatique (computer science department).*
2005	Three month internship in Singapore at the IPAL laboratory (Image Perception, Access & Language), in collaboration with the NUS (National University of Singapore)
2004-2007	**University Joseph Fourier, LIG laboratory, Grenoble, France,** *PhD-student funded by French ministry of research, within the team MRIM (Information retrieval team).*
	I worked on information retrieval. More precisely, I developed, from the language model, a graph-based model for semantic representation, evaluated on IR medical collections
	University Pierre Mendes France, Grenoble, France, *three year contract for teaching, office automation, IUP commerce et vente (business school department).*
2003	**CLIPS-IMAG laboratory, Grenoble, France,** development of a user interface for experimentation, 4 months.
2002	**Cabrilog, Grenoble, France,** Creation of a Web interface for bug management, 2 months.
2001	**Astrophysics Laboratory of Grenoble,** Creation of a calculation software for circumstellar objects detection, 2 months.

Education

Since 2004	**Ph.D. Student** in Computer Science, University Joseph Fourier, MRIM team of the LIG laboratory, Grenoble, France, on information retrieval models applied to semantic representation for medical information retrieval
	My Ph.D. will be defended by mid-May 2008
2004	**Master in computer science**, with honours (1st), *University Joseph Fourier, Grenoble, France, master project;* A preliminary study on the use of Universal Networking Language in information retrieval

Interests

Natural language processing, Information retrieval, Conceptual indexing, Language modelling.

Thesis (2004-2008)

Titre	Les supports de vocabulaires pour les systèmes de recherche d'information orientés précision : application aux graphes pour la recherche d'information médicale. *Vocabulary supports for precision oriented information retrieval systems: application to graphs for medical information retrieval.*
Laboratory	MRIM Team, *LIG laboratory (Laboratoire Informatique de Grenoble).*
Supervisors	Pr. Catherine Berrut, *university Joseph Fourier*, Grenoble, France. Dr. Jean-Pierre Chevallet, *LIG, University Pierre Mendès France, Grenoble, France.*
Chair	Pr. Jean-Pierre Giraudin, *LIG, University Pierre Mendès France, Grenoble, France.*
Member	Pr. Patrick Bosc, *IRISA, ENSSAT, Lannion, France.* Pr. Jean-Marie Pinon, *INSA, LIRIS, Lyon, France.*
Summary	In my Ph.D. I explored a framework for the development of precision-oriented information retrieval models. This framework promotes the notion of vocabulary support to model expressive representations used by information retrieval systems. Indeed few modelling framework are available to specify information retrieval systems and we propose such a framework which focuses on the modelling of expressiveness. This framework can be used to choose the expressiveness of a model and to compare models on their level of expressiveness.

In this framework we are moving towards the use of an expressive representation of the text. For this, we propose two models that are using representations with strong expressiveness. Both models are based on graphs representations. Through these two models are similar on their expressiveness, they are opposed on their underlying models. Indeed, we implement our first model with a model derived from conceptual graphs, and the second one with a model derived from the language modelling approach to information retrieval.

To use these models on text, we propose the use of a two-step process based on language processing that promotes information coverage. The first step produces an intermediate representation of documents in which each sentence is represented by a graph. This step is domain dependent. The second step creates documents final representations from the intermediate one. We finally apply our two models on the medical domain. To do so, we use the meta-thesaurus UMLS[1] and we propose several ways to build the intermediate representation of documents.

The effectiveness of our model is proven by a number of experiments on the CLEF medical campaign. This campaign enables us to test our models in a real framework and to compare it to other teams. Indeed while taking part in this campaign in 2007 one of our models got the best results[2].

Participation in evaluation campaign

A part of my research activities consists in participating in evaluation campaigns. These campaigns are used to validate some aspects of the research work and to propose new approaches. Participating in such campaigns requires lots of personal investment in program development and in experimentation, but allows for direct comparison with other research teams.

Clef 2007   In this campaign I have been involved in the medical information task. The purpose of this task is the multilingual search of diagnostics and images. For this task, we

---

[1] http://www.nlm.nih.gov/research/umls/
[2] http://ir.ohsu.edu/image/2007revised.xls (results LIG-MRIM)

| Deft 2006 | proposed to use a conceptual representation and a language model applied to graphs. This approach enabled us to achieve the **best results** in this task. |

| Deft 2006 | The purpose of this campaign was the thematic segmentation of documents. For this participation, we demonstrated the usefulness of the combination of different approaches. Our team got the 2nd best results. |

| Deft 2005 | This campaign goal was to automatically attribute discourse to its authors. We evaluated different NLP approaches based on lemmatisation and shallow parsing. We obtained the 8th position on 25 runs. |

| Clef 2005 | In this campaign we participated to the monolingual and multilingual information retrieval tasks. On these tasks we tested the usability of language models on syntactic structures. Our results were in the average for this campaign. |

Organisation

Member of the organisation committee of EARIA 2006

Reviews

RJCRI 2006 conference

SIGIR 2007 poster session

IPM Information management and processing journal

Publications

These publications are available online at:

http://www-mrim.imag.fr/cgi-bin/PIF/pif.pl?bibname=MRIM&query=maisonnasse

Peer-reviewed International Conferences

– **Loïc Maisonnasse**, Jean Pierre Chevallet, Catherine Berrut, Incomplete and Fuzzy Conceptual Graphs to Automatically Index Medical Reports; in 12th International Conference on Applications of Natural Language to Information Systems, Paris, France, 27-29 juin 2007

Peer-reviewed International Posters

– **Loïc Maisonnasse**, Eric Gaussier, Jean-Pierre Chevallet, Revisiting the Dependence Language Model for Information Retrieval, in 30th Annual International ACM SIGIR Conference, Amsterdam, 23-27 juillet 2007

Peer-reviewed National journals

– **Loïc Maisonnasse**, Caroline Tambellini, Dépendances syntaxiques et méthodes de détection de passages pour une segmentation sur le locuteur et le thème, in RNTI Défi fouille de textes : reconnaissance automatique des auteurs de discours - Campagne DEFT'05 (TALN'05)

Peer-reviewed National Conferences

– **Loïc Maisonnasse**, Eric Gaussier, Jean-Pierre Chevallet, *Modélisation de relations dans l'approche modèle de langue en recherche d'information*, in CORIA 2008, Perros Guirec, France, to appear, 2008.
– Saïd Radhouani, **Loïc Maisonnasse**, Joo-Hwee Lim, Thi-Hoang-Diem Le, Jean-Pierre Chevallet, *Une Indexation Conceptuelle pour un Filtrage par Dimensions, Expérimentation sur la base médicale ImageCLEFmed avec le méta thésaurus UMLS*, in CORIA'2006, Lyon France, 15-17 mars, 2006
– **Loïc Maisonnasse**, *Vers l'exploitation d'analyse de dépendance en recherche d'information précise*, in INFORSID 2005, Grenoble, pp505-520, 26/05/2005, 2005

Peer-reviewed Young Researcher Conferences

– **Loïc Maisonnasse**, *Validation syntaxique de relations sémantiques pour la RI*, Rencontres Jeunes Chercheurs en Recherche d'Informations (RJCRI'07), 2007

- **Loïc Maisonnasse**, *Intégration de connaissances syntaxiques dans les modèles de langue pour la RI*, in Rencontres Jeunes Chercheurs en Recherche d'Informations (RJCRI'06), 2006

International Evaluations Campaign

- **Loïc Maisonnasse**, Éric Gaussier and Jean Pierre Chevallet, *Multiplying Concept Sources for Graph Modeling*, Lecture Notes in Computer Science, to appear, 2008.
- **Loïc Maisonnasse**, Gilles Sérasset, Jean-Pierre Chevallet , *Using the X-IOTA System in Mono- and Bilingual Experiments at CLEF 2005*, Lecture Notes in Computer Science, vol 4022, pp 69-78, 2006

National Evaluations Campaign

- Zohra Khalis, Caroline Tambellini, **Loïc Maisonnasse**, *A chaque corpus son découpage et une segmentation pour tous*, in DEFT 06, Fribourg, 2006
- **Loïc Maisonnasse**, Caroline Tambellini, *Dépendances syntaxiques et méthodes de détection de passages pour une segmentation sur le locuteur et le thème*, in DEFT 2005, TALN 2005 vol 2, Dourdan, pp155-164, 6-10 juin, 2005

Thesis

- **Loïc Maisonnasse**, Une Etude Préliminaire à l'Utilisation d'UNL en Recherche d'Information, master thesis, MRIM team - CLIPS-IMAG, June, 2004

Teaching Activities

ATER[3] (2007-2008)

Department   [IUT2](#) Computer science department of the University Pierre Mendès France, Grenoble 2, France

Description   I have been teaching to an audience consisting of second year students in computer science. I participated in end of year juries, preparation of exams, corrections

Courses	Audience	Hours/year
Algorithms and programming	second year students	48 h tutorial
Operating System - concurrent programming	second year students	20 h tutorial 40 practical session

Three years contract for teaching (2004-2007)

Department   [IUP commerce et vente](#) (business school department), University Pierre Mendes France, Grenoble 2, france

Description   I gave courses on office automation for business students. In addition to these courses I participated in student internship evaluation, student recruitment, end of year juries, preparation and correction of exams, exams surveillance, Creation of the course material

Courses	People	Hours/year			
		2004-05	2005-06	2006-07	Total
Word/Excel/ PowerPoint	Licence 3rd year	44h (22h x 2)	20 h (10h x 2)	28 h (14h x 2)	92 h
Word/Excel/ PowerPoint	Professional Licence *grande distribution* (Large retailers)		28h	17,5 h	45.5 h
PowerPoint	Professional Licence *Hôtellerie* (hotel and catering)			24 h (12 h x 2)	24 h
PowerPoint	Professional Licence bank			8h	8 h

Extra-Curricular Activities:

Participation in doctoriales and entrepreneurship trophies in Grenoble

First Aid   Certification of the First Aid Training (2006)

Sports   Roller Hockey, Squash

Reading   Science-fiction, Fantasy

---

[3] Attaché Temporaire d'enseignement et de Recherche. Researcher and Teacher in computer science for one year