

Jean-Guy Mailly | Ph.D. Student in Computer Science

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Education

Université d'Artois

Ph.D.

In progress – Defense expected in september 2015

Lens

2012–2015

Université d'Artois

Master Degree, with honours

Master in Computer Science: Intelligent Systems and Applications

Lens

2010–2012

Université d'Artois

Licence Degree, with distinction

Licence in Mathematics and Computer Science, Special topic: Computer Science

Lens

2007–2010

High School Anatole France

Baccalaureate, with first class honours

Baccalaureate in Science, Special topic: Mathematics

Lillers

2007

Ph.D. thesis

Title: *Dynamics of Argumentation Systems*

Supervisors: Sylvie Coste-Marquis, Sébastien Konieczny, Pierre Marquis – Centre de Recherche en Informatique de Lens (CRIL)

Description: This thesis tackles the problem of integrating a new piece of information in an abstract argumentation framework. Such a framework is a directed graph such that its nodes represent the arguments, and the directed edges represent the attacks between arguments. There are different ways to decide which arguments are accepted by the agent who uses such a framework to represent her beliefs.

An agent may be confronted with a piece of information such that "this argument should be accepted", which is in contradiction with her current beliefs, represented by her argumentation framework.

In this thesis, we have studied several approaches to incorporate a piece of information in an argumentation framework.

Our first contribution is an adaptation of the AGM framework for belief revision, which has been developed for characterizing the incorporation of a new piece of information when the agent's beliefs are represented in a logical setting. We have adapted the rationality postulates from the AGM framework to characterize the revision operators suited to argumentation frameworks, and we have identified several ways to generate the argumentation frameworks resulting from the revision.

We have also shown how to use AGM revision as a tool for revising argumentation frameworks. Our approach uses a logical encoding of the argumentation framework to take advantage of the classical revision operators, for deriving the expected result.

At last, we have studied the problem of enforcing a set of arguments (how to change an argumentation framework so that a given set of arguments becomes an extension). We have developed a new family of operators which guarantee the success of the enforcement process, contrary to the existing approaches, and we have shown that a translation of our approaches into satisfaction and optimization problems makes possible to develop efficient tools for computing the result of the enforcement.

Master thesis

Title: *Révision de systèmes d'argumentation*

Supervisors: Sylvie Coste-Marquis, Sébastien Konieczny, Pierre Marquis – Centre de Recherche en Informatique de Lens (CRIL)

Description: The aim of this work was to study the possibility to adapt the AGM framework for belief revision to abstract argumentation systems. We studied different possible adaptations of the rationality postulates from AGM's work, pointed out their difference, and began to investigate the possibility to define some revision operators satisfying them.

Research internship thesis

Title: *Développement de nouvelles consistances*

Supervisors: Stéphane Cardon, Jean-Marie Lagniez – Centre de Recherche en Informatique de Lens (CRIL)

Description: This work aimed at implementing in an existing CSP solver some new ideas of consistency and to test their computational efficiency.

Software Development

DynArgs

Dynamics of Argumentation Software

My thesis work lead to the implementation of some pieces of software. In particular, I implemented the Extension Enforcement Software used for the experiments in [1].

CoQuiAAS

Argumentation Solver

Joint work with Jean-Marie Lagniez and Emmanuel Lonca. CoQuiAAS has won the First International Competition on Computational Models of Argumentation (ICCMA'15). Solver description: [4].

Experience

Vocational.....

Université d'Artois

Lens

Instructorship in the higher education

Since September 2012

Teachings in the institute of technology of Lens.

Some teachings in first and second year of the DUT (Diplôme Universitaire de Technologie) on Computer Science and the DUT on Multimedia and Internet Technologies:

- Object Oriented Programming
- Algorithmic
- Documents Conception
- Web Programming
- Android
- Databases

Miscellaneous.....

42nd Worldskills, Test of robotics

2012

Gold medal to the regional selections for the region Nord-Pas de Calais

Programme of Educative Success , C.C.A.S of Calonne-Ricouart

Tutor

Supervision of children and teenagers with problems

Calonne-Ricouart

January 2010 to july 2010

Languages

French: Perfectly fluent

Native language

English: Professional competence

Computer skills

Programming languages: Python, C, C++, Java, shell... **Operating Systems:** Windows (XP → 8), GNU/Linux, Mac OS X

Web Programming: HTML/CSS, PHP

Databases: Establishment of model and practice

Miscellaneous: Latex

References

Thesis supervisors

- Sylvie Coste-Marquis (coste@cril.fr)
- Sébastien Konieczny (konieczny@cril.fr)
- Pierre Marquis (marquis@cril.fr)

Reference

- Stefan Woltran (woltran@dbai.tuwien.ac.at)

Publications

International Conferences.....

[1] Sylvie Coste-Marquis, Sébastien Konieczny, Jean-Guy Mailly, and Pierre Marquis. Extension enforcement in abstract argumentation as an optimization problem. In *24th International Joint Conference on Artificial Intelligence (IJCAI'2015)*, jul 2015.

[2] Sylvie Coste-Marquis, Sébastien Konieczny, Jean-Guy Mailly, and Pierre Marquis. A translation-based approach for revision of argumentation frameworks. In *14th European Conference on Logics in Artificial Intelligence (JELIA'14)*, pages 77–85, sept 2014.

[3] Sylvie Coste-Marquis, Sébastien Konieczny, Jean-Guy Mailly, and Pierre Marquis. On the revision of argumentation systems: Minimal change of arguments statuses. In *14th International Conference on Principles of Knowledge Representation and Reasoning (KR'14)*, pages 52–61, jul 2014.

International Workshops and Short Papers.....

[4] Jean-Guy Mailly Jean-Marie Lagniez, Emmanuel Lonca. Coquiaas: Application of constraint programming for abstract argumentation. First International Competition on Computational Models of Argumentation (ICCMA'15), jul 2015.

[5] Jean-Guy Mailly. Dynamic of argumentation frameworks. In *23rd International Joint Conference on Artificial Intelligence (IJCAI'13)*. AAAI Press / International Joint Conferences on Artificial Intelligence, aug 2013. IJCAI'13 Doctoral Consortium.

[6] Sylvie Coste-Marquis, Sébastien Konieczny, Jean-Guy Mailly, and Pierre Marquis. On the revision of argumentation systems: Minimal change of arguments status. In *2nd International Workshop on Theory and Applications of Formal Argumentation (TAFa'13)*, aug 2013. workshop at IJCAI'13.

[7] Jean-Guy Mailly. Revising argumentation systems: Argument status versus graph minimization. ACAI Summer School 2013, Student Session (ACAI'13), jul 2013.

National Conferences.....

[8] Sylvie Coste-Marquis, Sébastien Konieczny, Jean-Guy Mailly, and Pierre Marquis. Forçage d'extension en argumentation abstraite par optimisation booléenne. In *9èmes Journées d'Intelligence Artificielle Fondamentale (IAF'15)*, jun 2015.

[9] Jean-Marie Lagniez, Emmanuel Lonca, and Jean-Guy Mailly. CoQuiAAS : Applications de la programmation par contraintes à l'argumentation abstraite. In *11èmes Journées Francophones de la Programmation par Contraintes (JFPC'15)*, pages 77–85, jun 2015.

[10] Sylvie Coste-Marquis, Sébastien Konieczny, Jean-Guy Mailly, and Pierre Marquis. Approche par traduction pour la révision de systèmes d'argumentation. In *8èmes Journées d'Intelligence Artificielle Fondamentale (IAF'14)*, pages 77–85, jun 2014.

[11] Sylvie Coste-Marquis, Sébastien Konieczny, Jean-Guy Mailly, and Pierre Marquis. Révision de systèmes d'argumentation : changement minimal du statut des arguments. In *7èmes Journées d'Intelligence Artificielle Fondamentale (IAF'13)*, pages 107–116, jun 2013.