Fifth CAMELEON Workshop

October 24, 2014, Porto Alegre

CAMELEON

Collaborative and **A**utomatic **ME**thods for the Multilingualisation of **LE**xica and **ON**tologies

http://cameleon.imag.fr

Project overview

- Funding from CAPES (Brazil) and COFECUB (France) -
- 4-years: Jan 2011 to Dec 2014
- Research and student missions in both directions
- Part of LICIA international laboratory
- Yearly CAMELEON workshops

Partners

- LIG: GETALP and EXMO teams
- Univ. Toulouse: MELODI
- Aix Marseille Univ.: TALEP
- UFRGS: INF and Letras
- UFSCar: Departamento de Computação

Keywords

- Natural Language Processing
- Semantic Web
- Lexical Resources
- Ontologies
- Multilingualism
- Machine Translation
- Information Retrieval
- Lexical Acquisition
- Ontology Matching
- Multiword Expressions

Outcomes: Formation

- 5 PhD students (2 cotutelles), 1 post-doc
- 15 Researcher missions
- Co-supervision of IC, TCC and Master students
- Workshops, tutorials and mini-courses

Outcomes: Tools and Resources

- `mwetoolkit`
- CAMELEON corpora
- Focused crawlers
- SRL lexicon for Portuguese
- SMT systems
- JeuxDeMots Português

Publications I

- Ramisch, C., Villavicencio, A., and Boitet, C. (2010d). Web-based and combined language models: a case study on noun compound identification. In Huang, C.-R. and Jurafsky, D., editors, *Proc. of the 23rd COLING (COLING 2010) — Posters*, pages 1041–1049, Beijing, China. The Coling 2010 Organizing Committee
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- Ramisch, C., de Medeiros Caseli, H., Villavicencio, A., Machado, A., and Finatto, M. J. (2010a). A hybrid approach for multiword expression identification. In *Proc. of the 9th PROPOR (PROPOR 2010)*, volume 6001 of *LNCS (LNAI)*, pages 65–74, Porto Alegre, RS, Brazil. Springer
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- Ramisch, C., Villavicencio, A., and Boitet, C. (2010c). mwetoolkit: a framework for multiword expression identification. In *Proc. of the Seventh LREC (LREC 2010)*, pages 662–669, Valetta, Malta. ELRA
- de Medeiros Caseli, H., Ramisch, C., das Graças Volpe Nunes, M., and Villavicencio, A. (2010). Alignment-based extraction of multiword expressions. *Lang. Res. & Eval. Special Issue on Multiword expression: hard going or plain sailing*, 44(1-2):59–77
- Araujo, V. D., Ramisch, C., and Villavicencio, A. (2011). Fast and flexible MWE candidate generation with the mwetoolkit. In [Kordoni et al., 2011], pages 134–136
- Duran, M. S., Ramisch, C., Aluísio, S. M., and Villavicencio, A. (2011). Identifying and analyzing Brazilian Portuguese complex predicates. In [Kordoni et al., 2011], pages 74–82

Publications II

- Duran, M. S. and Ramisch, C. (2011). How do you feel? investigating lexical-syntactic patterns in sentiment expression. In *Proceedings of Corpus Linguistics 2011: Discourse and Corpus Linguistics Conference*, Birmingham, UK
- Ramisch, C. (2012a). A generic framework for multiword expressions treatment: from acquisition to applications. In [con, 2012], pages 61–66
- Ramisch, C., Araujo, V. D., and Villavicencio, A. (2012). A broad evaluation of techniques for automatic acquisition of multiword expressions. In [con, 2012], pages 1–6
- Mangeot, M. and Ramisch, C. (2012). A serious lexical game for building a Portuguese lexical-semantic network. In *Proceedings of the ACL 2012 3rd Workshop on The People's Web Meets NLP: Collaboratively Constructed Semantic Resources and their Applications to NLP*, Jeju, Republic of Korea. Association for Computational Linguistics
- Granada, R., Lopes, L., Ramisch, C., Trojahn, C., Vieira, R., and Villavicencio, A. (2012). A comparable corpus based on aligned multilingual ontologies. In *Proceedings of the ACL 2012 First Workshop on Multilingual Modeling (MM 2012)*, Jeju, Republic of Korea. Association for Computational Linguistics
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- Villavicencio, A., Idiart, M., Ramisch, C., Araujo, V. D., Yankama, B., and Berwick, R. (2012). Get out but don't fall down: verb-particle constructions in child language. In Berwick, R., Korhonen, A., Poibeau, T., and Villavicencio, A., editors, *Proc. of the EACL 2012 Workshop on Computational Models of Language Acquisition and Loss*, pages 43–50, Avignon, France. ACL

Workshop 2014

	Working session
10:30 - 12:00	1st CAMELEON Report writing session * Discuss and compare the project goals and outcomes * First outline of the final report on Gdocs * Determine the part to be written by each participant
12:00 - 14:00	**LUNCH**
	Session I - Research talks
14:00 - 14:15	Development of a lexical resource annotated with semantic roles for Portuguese Leonardo Zilio
14:15 - 14:30	Multiword expressions and lexical complexity in Portuguese and French Bianca Pasqualini
14:30 - 14:45	Extraction of hierarchical relations from texts Roger Leitzke Granada
14:45 - 15:00	Simplifying Complex Textual Expressions Rodrigo Wilkens
15:00 - 15:30	**COFFEE BREAK**

Workshop 2014

15:30 - 15:50	Token-based identification of MWEs Silvio Ricardo Cordeiro
15:50 - 16:05	Builing a dataset to evaluate MWEs lexical simplification Luiza Hageman
16:05 - 16:20	Web as a Corpus: creation and annotation of very large corpora André Trevisol Trindade
	Session II - Panel and discussion
16:20 - 16:30	Presentation of CAMELEON's follow-up: AIM-WEST Carlos Ramisch
16:30 - 17:00	Project summary, results, final report Animated by Carlos Ramisch and Christian Boitet

Enjoy the workshop!

October 24, 2014, Porto Alegre

Outline

AIM-WEST

A**nalysis and **I**ntegration of **M**ulti-**W**ord **Expressions
in ***S**peech and **T**ranslation*

http://aim-west.imag.fr

Project overview

- Funding from FAPERGS-FAPESP (Brazil) and CNRS-INRIA (France)
- 3 years: Jan 2014 to Dec 2016
- Research and student missions in both directions
- One final workshops

Partners

- LIG, Lattice, LIF (France)
- UFRGS and UFSCar (Brazil)

Keywords

- Natural Language Processing
- MultiWord Expressions
- Machine Translation
- Automatic Speech Recognition
- Language Technology
- Non Compositionality
- Cognitive Lexical Models

Goals

This project aims to investigate techniques, resources and protocols for ***evaluating*** and ***integrating*** models of ***MWE processing*** into ***MT and ASR technology***.

Motivations

- Why multiword expressions (MWEs)?
- Why machine translation (MT)?
- Why automatic speech recognition (ASR)?

Motivations

en source	We only go out **once in a blue moon**
fr MT	Nous allons seulement **une fois dans une lune bleue**
en source	The **dry run** went on smoothly
fr MT	Le **fonctionnement à sec** est allé en douceur
en source	The children **ate** my cookies **up**
fr MT	Les enfants **ont mangé** mes biscuits **jusqu'à**
en source	The boy **is in** his mother's **black books**
fr MT	Le garçon **est dans les livres noirs** de sa mère
en source	MWEs are a **pain in the neck** for computers
fr MT	MWEs sont une **douleur dans le cou** pour les ordinateurs
en source	MWEs are a **tough nut to crack**
fr MT	MWEs sont un **dur à cuire**
en source	I never get on **cable cars**
fr MT	Je ne suis jamais **sur** les **voitures de câble**
en source	He rarely **gets drunk** at work
fr MT	Il **se fait** rarement **bu** au travail

Preliminary experiments [Ramisch et al., 2013]

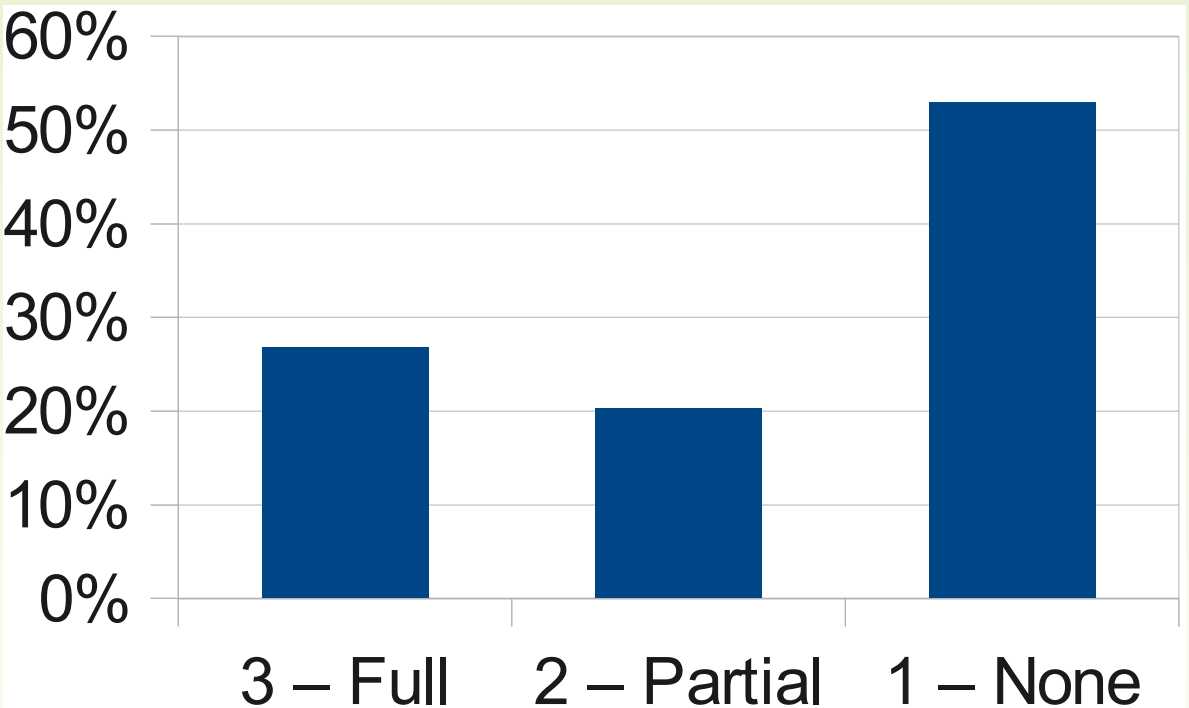
Investigate:

- What proportion of split phrasal verbs is translated correctly/acceptably by current MT paradigms?
- Which MT paradigm, phrase-based or hierarchical, can better handle these constructions?
- What are the main factors that influence translation quality?

Translation examples

	could **boil** *this poem* **down** *to saying*
PBS	*pourriez* **furoncle** *ce poème* **jusqu'** *à dire*
HS	*pourriez* **bouillir** *ce poème* **descendu** *à dire*
	he would **think** *it* **through** *and say*
Both	*il* **pense que** *ça* **à travers** *et dire*
	you couldn 't **figure** *it* **out**
HS	*vous ne pouvais pas le* **comprendre**
PBS	*vous ne pouviez pas le* **découvrir**
	Then we 'll **test** *some other ideas* **out**
Both	*puis nous allons* **tester** *certains autres idées*

Main finding: MT is quite bad



Distribution of annotations - adequacy

Ongoing work

- AIM-WEST kick-off mission in São Carlos
- Gather data sets and corpora
- Develop automatic evaluation metrics
- Improve manual evaluation metrics
- Propose a shared task on MWE translation

Merci beaucoup !

Muito obrigado!

Thank you!

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