

Julien TOURILLE – PhD Student

(last update: October 2018)

LIMSI

Building 508

Rue John von Neumann

Campus Universitaire d'Orsay

91405 ORSAY CEDEX

FRANCE

E-MAIL: julien.tourille@gmail.com

WEBSITE: <https://jtourille.github.io>



Current Position: PhD Student in Natural Language Processing

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| Since 2015 | PhD in Computer Science , LIMSI, CNRS, Univ. Paris-Sud, Université Paris-Saclay |
| Topic | Extracting Clinical Event Timelines: Temporal Information Extraction and Coreference Resolution in Electronic Health Records |
| Laboratory | Laboratoire d'Informatique pour la Mécanique et les Sciences de l'Ingénieur |
| Advisors | Xavier Tannier, Aurélie Névéol and Olivier Ferret |
| Description | Important information for public health is locked in electronic patient records which are written in natural language. These records represent a considerable corpus, which grows by several hundreds of thousands of documents every year per hospital. The retrospective analysis of these records allows health professionals to obtain a concise view of the healthcare pathways within their institutions. It allows to compare effective patient care to clinical guidelines in order i) to evaluate the quality of the healthcare pathway, ii) to highlight the steps of the pathway where specific care should be provided and iii) to further improve the diagnosis process and the therapeutic approach. In my PhD dissertation, I propose to develop natural language processing methods adapted to the clinical language, which will facilitate the summarization of information regarding healthcare pathways in the context of retrospective analyses. |

Education

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| Since 2015 | PhD in Computer Science , LIMSI, CNRS, Univ. Paris-Sud, Université Paris-Saclay |
| 2014–2015 | MSc (second year) - Natural Language Processing with a specialization in Research and Development , Paris Nanterre University, University of Paris III: Sorbonne Nouvelle, and INALCO summa cum laude |
| 2013–2014 | MSc (first year) - Lexicography, Terminography et Automatic Corpus Processing , University of Lille summa cum laude |

Other Training

2017 Collaborative Institutional Training Initiative

- Curriculum Group: Human Research
- Course Learner Group: Group 1 - Biomedical
- Stage: Stage 1 - Basic Course
- Description: Biomedical Investigators and Key Personnel Who Interact With Subjects
- Completion date: April 13, 2017
- Expiration date: April 20, 2020

Publications

- [6] Julien Tourille, Matthieu Doutreligne, Olivier Ferret, Nicolas Paris, Aurélie Névéol, and Xavier Tannier. “Evaluation of a Sequence Tagging Tool for Biomedical Texts”. In: *Proceedings of the 9th International Workshop on Health Text Mining and Information Analysis* (Brussels, Belgium, Oct. 31, 2018). Association for Computational Linguistics, Oct. 2018.
- [5] Julien Tourille, Olivier Ferret, Xavier Tannier, and Aurélie Névéol. “LIMSI-COT at SemEval-2017 Task 12: Neural Architecture for Temporal Information Extraction from Clinical Narratives”. In: *Proceedings of the 11th International Workshop on Semantic Evaluation* (Vancouver, Canada, Aug. 3–4, 2017). Association for Computational Linguistics, Aug. 2017, pp. 597–602. URL: <http://www.aclweb.org/anthology/S17-2098>.
- [4] Julien Tourille, Olivier Ferret, Xavier Tannier, and Aurélie Névéol. “Neural Architecture for Temporal Relation Extraction: A Bi-LSTM Approach for Detecting Narrative Containers”. In: *Proceedings of the 55th Annual Meeting of the Association for Computational Linguistics* (Vancouver, Canada, July 30–Aug. 4, 2017). Association for Computational Linguistics, July 2017, pp. 224–230. URL: <http://aclweb.org/anthology/P17-2035>.
- [3] Julien Tourille, Olivier Ferret, Xavier Tannier, and Aurélie Névéol. “Temporal Information Extraction from Clinical Text”. In: *Proceedings of the 15th Conference of the European Chapter of the Association for Computational Linguistics* (Valencia, Spain, Apr. 3–7, 2017). Association for Computational Linguistics, Apr. 2017, pp. 739–745. URL: <http://www.aclweb.org/anthology/E17-2117>.
- [2] Julien Tourille, Olivier Ferret, Aurélie Névéol, and Xavier Tannier. “Extraction de Relations Temporelles dans des Dossiers Électroniques Patient”. In: *Actes de la Conférence Traitement Automatique des Langues Naturelles 2016* (Paris, France, July 4–8, 2016). Association pour le Traitement Automatique des Langues, July 2016, pp. 459–466. URL: <https://jep-taln2016.limsi.fr/actes/Actes%20JTR-2016/Papers/T90.pdf>.
- [1] Julien Tourille, Olivier Ferret, Aurélie Névéol, and Xavier Tannier. “LIMSI-COT at SemEval-2016 Task 12: Temporal Relation Identification Using a Pipeline of Classifiers”. In: *Proceedings of the 10th International Workshop on Semantic Evaluation* (San Diego, California, USA, June 16–17, 2016). Association for Computational Linguistics, June 2016, pp. 1136–1142. URL: <http://www.aclweb.org/anthology/S16-1175>.

Talks, Seminars, Posters and Demonstrations

June 2018 **Presentation at Clinical NLP Seminar** | Location: LIMSI, Orsay, France | Title: Événements Médicaux et Analyse Temporelle

- Jan. 2018 **Doctoral seminar** | Location: LIMSI, Orsay, France | Title: Yet Another SEquence Tagger (YASET)
- Dec. 2017 **System demonstration at *Journée e-santé*** | Location: NanoInnov, Palaiseau, France
System: Yet Another SEquence Tagger (YASET)
- Nov. 2017 **Presentation at OpenHealth seminar** | Location: OpenHealth Institute, Paris, France
Topic: Détection automatique de la coréférence événementielle dans les dossiers patients électroniques
- Jun. 2017 **Doctoral seminar** | Location: LIMSI, Orsay, France | Title: Temporal Analysis in Electronic Health Records
- Apr. 2017 **Presentation at THYME group bi-weekly meeting** | Location: Boston Children's Hospital, Boston, USA | Topic: Temporal Information Extraction from Clinical Narratives
- May 2016 **Presentation at LIMSI PhD day** | Location: LIMSI, CNRS, Saclay, France
Topic: Cross-Document Event Coreference in Electronic Health Records
- Apr. 2016 **Poster at Digicosme Research Days** | Location: CentraleSupélec, Saclay, France
Topic: Cross-Document Event Coreference in Electronic Health Records

Other Research Experience

- 2015 **Master's thesis in Natural Language Processing**
 Title Automatic Detection of Epistemic Modality in Biomedical Texts
 Laboratory MoDyCo Laboratory (CNRS UMR 7114), Nanterre, France
 Advisor Delphine Battistelli
 Topics
 - Modelization of the epistemic modality in biomedical scientific texts written in english.
 - Conception and development of a modality tagger.
- 2014 **Research Internship in Natural Language Processing**
 Laboratory ITEC Laboratory, Kortrijk, Belgium
 Advisor Hans Paulussen
 Topics
 - Evaluation and optimization of a named entity recognition system developed for the IReadPlus project.
 - Training and optimization of a Part-Of-Speech Tagger using the GRACE tagset.
 - Conception and development of monitoring tools for the laboratory NLP pipeline.

Research Stays

- 2017 Research stay at the Natural Language Processing Laboratory of the Boston Children's Hospital, Boston, USA | April 2017–May 2017

Awards

- 2017 Selected for the “Best of SemEval-2017” session, SemEval Workshop, Vancouver, Canada
- 2016 Selected for the “Best of SemEval-2016” session, SemEval Workshop, San Diego, USA

Funding

- 2015–2018 3-year PhD funding from the excellence laboratory center (labex) DigiCosme
- 2017 Grant from the [OpenHealth Institute](#) for a research stay at the Natural Language Processing Laboratory of the Boston’s Children Hospital, Boston, USA

Teaching Experience

- 2017–2018 **University Institute of Technology**, Univ. Paris-Sud, Université Paris-Saclay
 - 1st year undergraduate in computer science: **digital documents and interfaces** (1st term) | Teaching assistant to Benjamin Hellouin
 - 2nd year undergraduate in computer science: **advanced database techniques** (1st term) | Teaching assistant to Nicolas Férey
 - 1st year undergraduate in computer science: **object oriented design** (2nd term) | Teaching assistant to Chantal Reynaud
- 2016–2017 **University Institute of Technology**, Univ. Paris-Sud, Université Paris-Saclay
 - 1st year undergraduate in computer science: **digital documents and interfaces** (1st term) | Teaching assistant to Veronique Moriceau, Sylvie Delaët and Laurence Salvator
 - 2nd year undergraduate in computer science: **advanced database techniques** (1st term) | Teaching assistant to Nicolas Férey
 - 2nd year undergraduate in computer science: **software production** (1st term) | Teaching assistant to Ana Lopez
- 2015–2016 **University Institute of Technology**, Univ. Paris-Sud, Université Paris-Saclay
 - 2nd year undergraduate in computer science: **advanced database techniques** (1st term) | Teaching assistant to Nicolas Férey
 - 1st year undergraduate in computer science: **object oriented design** (2nd term) | Teaching assistant to Chantal Reynaud

Other Activities

- Reviewer for AMIA, SemEval, ACL and BMC Bioinformatics
- Organization of the 2016 edition of the LIMSI PhD day