



Post-doctoral position

Fully funded 1-year full-time Postdoc research position in Opinion Mining and Opinion Dynamics at the Cergy Pontoise University jointly proposed by the LPTM Lab (UMR 8089 CNRS-UCP) and ETIS Lab (UMR 8051 CNRS-UCP)

A one-year post-doctoral position is open in the framework of the **OpLaDyn project** (Understanding Opinion and Language Dynamics using massive data - <http://project.u-cergy.fr/~opladyn/>), a selected project of the **TransAtlantic Digging into Data Challenge**, <https://diggingintodata.org/awards/2016/news/winners-round-four-t-ap-digging-data-challenge>. This is an international project in which a team with expertise in Data Science, Physics, Linguistics, Philosophy and Law aims to study problems in Human Social Sciences developing an interdisciplinary view of the relation between information patterns in Big Data and the dynamics of social actions. The postdoctoral researcher will follow an innovative multidisciplinary approach by developing techniques to mine opinion models and study their evolution.

The post-doctoral researcher will work jointly and under the supervision of Laura Hernandez, Associate Professor at LPTM Lab and Dimitris Kotzinos, Professor at ETIS Lab and their respective groups.

CONTEXT

Big Data technologies are changing the informational environment in which people live, keeping traces of their activities, merging behavior and decision-making processes of social actors. Based on textual data obtained from different media, we will study emerging patterns in social actions, focusing on opinion diffusion and language evolution.

In the framework of this project, the team has access to the historical database of The New York Times, which gathers documents covering over more than 150 years. These can be combined with modern data sources like Twitter, in order to develop comparative studies on opinion and language dynamics.

RESEARCH OBJECTIVES

By analyzing large bases of textual data, we aim at extracting patterns of relevant information, in order to construct data-based models of opinion formation and evolution. This implies addressing, among others, the following questions:

- How can relevant information be obtained from the Big Data sources at disposal in order to build data-based models of opinion dynamics? What is the role of the metadata in this endeavor?
- How can one infer the network of social contacts on the basis of these data?
- How can one capture opinion dynamics? Which parameters characterize the dynamical process? How these parameters depend on the type of media where opinion diffuses?

More specifically, we are interested in understanding how scientific topics of high societal impact migrate from the channels restricted to scientists to the public media and how this diffusion contributes to fashion the public opinion on those particular topics. The focus of the research work will also be influenced by the profile of the selected candidate.

Key Responsibilities and Tasks:

- Developing new measures and methods for gathering opinion related data streams
- Develop models for representing topics, opinions and exchanges of opinions

- Developing new opinion mining methods, opinion models as well as algorithms to track their evolution
- Work on the existing multidisciplinary collaboration between Professors Kotzinos and Hernandez
- First-authoring top-tier peer-reviewed journals and conference proceedings
- Presenting findings at national/international scientific conferences
- Develop a toolkit that can be used for subsequent opinion mining studies

Qualifications and Skills/Experiences:

- Ph.D. in Computer Science, Physics, or a related field with focus in the areas of social networks or opinion mining/dynamics or information diffusion. Applicants that will defend their PhDs before or around the beginning of the work (04/2019) are also welcome to apply.
- Modeling and/or analytical and/or programming skills. Experience in tools used for big data analytics (in R, Python, Java or all) and in Cloud Computing environments is a plus.
- Strong oral and written communication skills
- Demonstrated experience preparing conference presentations, research findings, and manuscripts for submission to peer-reviewed journals
- Language: the working language will be English

LOCATION

Cergy-Pontoise (suburb at the west of Paris, France).

The post-doctoral researcher will be located at the ETIS Lab (UMR 8051 - <http://www-etis.ensea.fr>) and the LPTM Lab (UMR 8089 - <https://www.u-cergy.fr/fr/laboratoires/labo-lptm.html>) at the University of Cergy Pontoise. The selected candidate will benefit from the working environment of both laboratories and will take part in the activities of the OpLaDyn team.

STARTING DATE AND DURATION:

April 2019 or as soon as possible thereafter.

This one-year position is susceptible to be extended at least up to one year more.

APPLICATION AND CONTACTS

If interested, please send your application (including a detailed CV, university transcripts, a copy of the PhD thesis and/or scientific papers if available, as well as a list of personal references and a motivation letter) in PDF format by email with subject "Postdoc OpLaDyn". Further informal enquiries are also welcome.

Applications will be welcome until the position is filled, those submitted before April 15th will be considered in priority.

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