

**Fully funded 2-year full-time Postdoc research position
In Big Data/AI applied to Managerial Cognitions
jointly between the MIDI team of the ETIS Lab UMR 8051
and the Management Department of ESSEC Business School**

OBJECTIVE

This postdoctoral project will take an innovative multidisciplinary approach by developing Big Data/AI based techniques to study managerial cognitions in the field.

CONTEXT

Computer Sciences/Big Data/AI

Techniques and methods to be developed belong to the following Big Data /AI areas of current computer science research:

- modelling and capturing of opinions/beliefs using Big Data, Machine Learning and Artificial Intelligence methods,
- learning from natural data sources (e.g., online discussions)
- information diffusion, opinion dynamics and social networks

Substantive Application: Management Cognitions

Entrepreneurs tend to share their points of view on how to manage their firm, for instance by expressing their beliefs on Twitter, which constitute “theory of action”. If we assume a limited set of such higher order keystone theories have a significant effect on actors’ activities and actions, the determination of such set is a hard combinatorial problem. Conceptually, it may be resolved in the field by “social calculations”, those iterative rounds of communication, enactment and selection of beliefs among a large population of entrepreneurs. Because of this process of emergence, belief about theories of action should therefore exhibit particular properties (e.g., polymorphous) and follow particular dynamics (e.g., phase transitions). So far, those properties have not been verified in the field, beyond conducting limited manual qualitative analyses.

RESEARCH OBJECTIVES

Substantive Application

We plan to capture and model the belief system of entrepreneurs as they are shared in social media or other communication means. This should allow to verify and further elaborate on the properties and dynamics of beliefs system in communities of entrepreneurs, in particular through non-linear modelling (phase transitions, interactions). This would provide information on their validity and robustness. There is also great potential if such analyses can be extended to other managerial contexts, for instance to the belief system of employees inside a firm, using data sources such as email trails.

Computer Science/Big Data/AI

Modelling and capturing opinions and their evolution in a managerial context is a new exciting area of interdisciplinary research. The work will combine properties arising from the social (online and professional) networks of the management personnel with text analytical functions in order to form a model of beliefs (opinions) and then track the evolution of this model through subsequent interactions. We plan to do this through a series of learning and mining tasks over dynamic data, since we are interested in capturing the temporal aspects of such models.

The main objective of the postdoc will be to complete studies pushing the boundary of Big Data/AI techniques in order to better understand managerial cognitions. Besides the usual publishing of **research papers in high-end journals/conferences both in Big Data/AI and management studies** (in collaboration with the study’s PIs, Profs. Kotzinos & Cavarretta). We would like to also present at the end a toolkit that would allow us to repeat such studies in the future.

REQUIREMENTS

- The applicant should have successfully defended a PhD in computer science, big data, machine learning, data science or related field. Applicants that will defend their PhDs before or around the beginning of the project (11/2018) are also welcome to apply.
- The applicant should demonstrate ability and experience in developing applications to execute applied computer science projects. Experience in tools used for big data analytics (in R, Python, Java or all) is a plus (additionally if applied in a cloud environment).
- Language: the working language will be English

LOCATION

Cergy-Pontoise (suburb of Paris France)

INSTITUTIONAL CONTEXT

The funding for this research is provided by Paris Seine Initiative of Excellence. We expect the successful applicant to be one of the driving forces behind the newly established collaboration between the two entities mentioned above. The postdoc will be affiliated and located in the ETIS lab at the University of Cergy-Pontoise, and will work jointly with both Professor Fabrice Cavarretta (ESSEC Business School) and Professor Dimitris Kotzinos (ETIS / Paris Seine University) and their respective groups.

TENTATIVE STARTING DATE:

November 2018 or as soon as possible thereafter.

APPLICATION

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 to Professor Dimitris Kotzinos (Dimitrios.Kotzinos@u-cergy.fr) and cc: Professor Fabrice Cavarretta (cavarretta@essec.edu) with title "Postdoc INEX". Further informal enquiries are also welcome.

Applications will be welcome until the position is filled, those submitted before 15/09/2018 will be considered in priority.