
PhD position (M/F) – Thesis offer (M/F)
(Reference: DS_BH_PhD_ReseauxProfondsMultimodaux_Mai2017)

Research topics	Multimodal Deep Networks for Audio-Visual Document Analysis and Indexing. Machine Learning, Data Science.
Department	Data Science
Parution date	04/05/2017
Start date	ASAP
Duration	Duration of the thesis (3 years)
Description	<p>This thesis is part of the development of new functionalities for a platform for indexing, searching and linking multimodal information. The study focuses on the use of so-called deep learning methods for the analysis and structuring of audio-visual documents, mainly on video, but other documents such as textual (articles, reports, etc.) and visual (images, faces, logos) will also be treated. The objective is to allow automatic analysis of audio-visual documents to extract the content for indexing purposes and for the creation of semantic links between documents. The thesis will focus on aspects of video analysis, multimodal fusion and automatic index construction from such data. The work will devise new multimodal models based first on the most recent Deep Neural Networks architectures and then extending them to push the state of the art further.</p> <p>This thesis has three main objectives:</p> <ul style="list-style-type: none">• develop techniques for analyzing audio-visual content (including text), so that multimodal data can be categorized, adapting and improving Deep Network -based models. This categorization will serve to structure and annotate semantically the collections and to better understand their content and evolution.• study and implement temporal segmentation approaches that take context and content into account in order to define in a precise and localized way (temporally and possibly spatially) the semantic division of audio-visual documents• develop and validate automatic methods for linking audio-visual contents sharing common semantic concepts building on previously developed analysis and segmentation approaches. <p>Type of Contract: CIFRE Industrial contact: ORKIS (http://www.orkis.com)</p>
Requirements	<ul style="list-style-type: none">• Education Level / Degree: MSc (with distinction)• Field / specialty: Computer Science• Technologies: Machine Learning / Probabilistic Modeling/ Computer Vision• Languages / systems: French (Required) and English



- Application** The application must include (I, II and III):
- I-Curriculum Vitae
 - II-Motivation letter of two pages also presenting the perspectives of research and education
 - III-Names and addresses of three references
- Applications should be submitted by e-mail to secretariat@eurecom.fr with the reference: DS_BH_PhD_ReseauxProfondsMultimodaux_Mai2017**
- Postal address** CS 50193 - 06904 Sophia Antipolis, France
- Contact** secretariat@eurecom.fr
- Fax number** +33 4 93 00 82 00

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