PhD position (M/F) – Thesis offer (M/F)
(Reference: DS_BM_PhD_Analyse_Mai2016)

Research topics
Automatic Analysis of Multimedia Information from Social Networks

Department
Data Science

Parution date
27/05/2016

Start date
ASAP

Duration
Duration of the thesis

Description
This thesis is part of a collaborative project to analyze the multimedia information that is published on the Internet about cultural festivals, either by professional or by the public. These data are diverse (text, images, videos) and published on various sources (twitter, blogs, forums, catalogs). The project aims at analyzing and structuring this information in order to better understand the public and the cultural practices, and to recombine them to build synthetic view of these collections. This thesis will focus on the aspects of video analysis and multimodal fusion. It will extend the latest analysis techniques based on Deep Network models.

This thesis will address two problems: • to develop techniques to extend the existing Deep Network models for the automatic analysis of video content and the association of language information, so that the collected data may be categorized in predefined categories. This component will be used to structure the collections and better understand their content and their evolution. • to study mechanisms to recombine the multimedia content, and build synthetic views of the collections. Several strategies will be studied, depending on whether these views are intended for professional users or for the general public.

The research will focus in particular on mechanisms to automatically construct semantic classifiers, and on fusion techniques for the results of these classifiers. The recombination aspects will involve methods for the selection of important segments, followed by an assembly strategy according to the expected objective. A specific attention will be paid to evaluation techniques that will allow to measure the performance of different approaches.

Requirements
• Education Level / Degree: Master with Honors
• Field / specialty: Computer Science
• Technologies: Machine Learning, Probabilistic Models, Programming
• Languages / systems: 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_BM_PhD_Analyse_Mai2016

EURECOM specifically encourages women to apply with a view towards increasing the proportion of female researchers.

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EURECOM is a French graduate school and a research center in communication systems based in the international science park of Sophia Antipolis, which brings together renowned universities such as Télécom ParisTech, Aalto University (Helsinki), Politecnico di Torino, Technische Universität München (TUM), Norwegian University of Science and Technology (NTNU), Chalmers University (Sweden) and Czech Technical University in Prague (CTU). The Principality of Monaco is a new institutional member. The Institut Mines-Télécom is EURECOM's founding member.

EURECOM benefits from a strong interaction with the industry through its specific administrative structure: Economic Interest Group (kind of consortium), which brings together international companies such as: Orange, ST Microelectronics, BMW Group Research & Technology, Symantec, Monaco Telecom, SAP, IABG.

EURECOM deploys its expertise around three major fields: Digital Security, Data Science and Communication Systems. EURECOM is particularly active in research in its areas of excellence while also training a large number of doctoral candidates. Its contractual research is recognized across Europe and contributes largely to its budget.

Thanks to its strong ties set up with the industry, EURECOM was awarded the “Institut Carnot” label jointly with the Institut Telecom right from 2006. The Carnot Label was designed to develop and professionalize cooperative research. It encourages the realization of research projects in public research centers that work together with socioeconomic actors, especially companies.