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To Whom It May Concern:

This letter is to certify that **Andrea Ferracani** is an enrolled student in the Ph.D degree program in Information Engineering at the University of Florence, in Florence Italy.

Please feel free to contact our office if you have further questions concerning this student.

Sincerely,

Professor Alberto Del Bimbo
21/08/2015

Andrea Ferracani

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Media Integration and Communication Center University of Florence,
Italy (<http://www.micc.unifi.it/vim/>)

To whom it may concern,

I wish to apply to the “Student Travel Grant” program in order to attend the ACM Multimedia Conference 2015 in Brisbane, AUSTRALIA. I'm attending the first year Ph.D in Information Engineering at the University of Florence (Italy) with a program entitled “Social Networks data stream analysis for urban computing and smart cities”, supervised by professor Alberto Del Bimbo. I'm expecting to graduate in 2017.

I co-authored the following papers that were accepted for the conference. For each paper, a brief description of my contribution to the work is provided.

- A. Ferracani, D. Pezzatini, A. Benericetti, M. Guiducci A. Del Bimbo “*PITAGORA: Recommending Users and Local Experts in an Airport Social Network*”. Demo Session. I designed the overall system and contributed to the development of the recommendation system and of the interface. I'll present the demo.

- A. Ferracani, D. Pezzatini, R. Del Chiaro, F. Yang, M. Sanesi, A. Del Bimbo, “*smArt: Open and Interactive Indoor Cultural Data*” . Demo Session. I took part in the definition, development and testing of the whole project and proposed an innovative combination of web based semantic tools and sensors to be used in smart cultural environments. I'll present the demo.

- A. Ferracani, D. Pezzatini, M. Bertini, S. Meucci, A. Del Bimbo “*A System for Video Recommendation using Visual Saliency, Crowdsourced and Automatic Annotations*”. Demo Session. I designed the overall system. I ideated the adoption of semantic profiling techniques combined with visual feature extraction to improve

clustering methods exploited in hybrid video recommendation. I'll present the demo.

- A. Ferracani, D. Pezzatini, M. Bertini, S. Meucci, A. Del Bimbo *"Item-Based Video Recommendation using Visual Saliency, Crowdsourced and Automatic Annotations"*. Submitted to the Fourth International ACM Workshop on Crowdsourcing for Multimedia (CrowdMM 2015). Notification of Acceptance is on 1st August (Application submission deadline for travel grant: July 31, 2015). I designed the overall system and proposed semi-automatic interface tools for crowdsourcing multimedia annotation which exploit human factors such as self-esteem in social networks. I'll present the paper if accepted.

I am applying to the student travel grant because the attendance at the Conference is for me a real opportunity to learn about state of the art innovations in multimedia intelligent systems and applications. The grant would give me also the opportunity to present my work, to forge possible collaborations with researchers interested in my fields and to receive really significant feedback on the work done so far.

I had the opportunity to participate and help the organizers during the ACM MM conference in 2010 in Florence and to attend as a speaker during ACM MM 2013 in Barcelona and ACM MM 2014 in Orlando, FL. The high level of the conference tracks has every time provided me with valuable knowledge and ideas to improve my work which focuses on multimedia analysis on social networks, collective intelligence, urban computing, recommendation systems, HCI, social media and interactive applications. (This is my profile page at the University: <http://www.micc.unifi.it/vim/people/andrea-ferracani/>; a list of my publications can be found here: <http://bit.ly/1TTU5aC>)

Research Work Abstract (Andrea Ferracani)

My Ph.D research project deals with the study of new strategies for analyzing big multimedia data obtained from Location-Based Social Networks (but also, where possible, by sensors, participatory sensing and crowdsourcing).

These data are the basis for the design and implementation of original infovis interfaces, browsing and recommendation systems which may be exploited in smart environments and/or as innovative technologies applied to smart cities.

Primary goals of my project are the automatic identification of functional areas within cities through multimedia analysis such as extraction of topics from multimedia streams, user profiling, detection of macro and micro events and opinion mining. Various aspects will be addressed with a focused approach to knowledge-fusion of several data streams (i.e Social Networks data, Opendata, Sensor data), exploiting also semantic technologies.

Knowledge fusion is still poorly adopted in the field of urban computing but I think it can be a valuable approach for the objective of designing effective systems oriented to intervention-based analytics and prediction.

In order to achieve this goal I'm working on the development of multimedia systems and interfaces and on the refinement of several mining techniques: opinion mining and semantic distance algorithms for the improvement of content and user-based recommendation, clustering, optimization of itinerary planning, places, events and services suggestion and, finally, mechanisms for community discovery and friend prediction.