

IM2 Newsletter

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News

2005-02-09

Press coverage : Un científico español logra mover objetos a distancia con un sistema de control mental
(EL PAÍS)

2005-02-10

Press coverage : L'IDIAP fait son nid!
(Le Nouvelliste)

2005-02-17

The 32nd issue of the IM2 Newsletter, the first with the new layout, is online.

Cover Story

MLMI 04 Workshop on Multimodal Interaction and Related Machine Learning Algorithms

THE WORKSHOP RECORDINGS ARE NOW AVAILABLE ONLINE

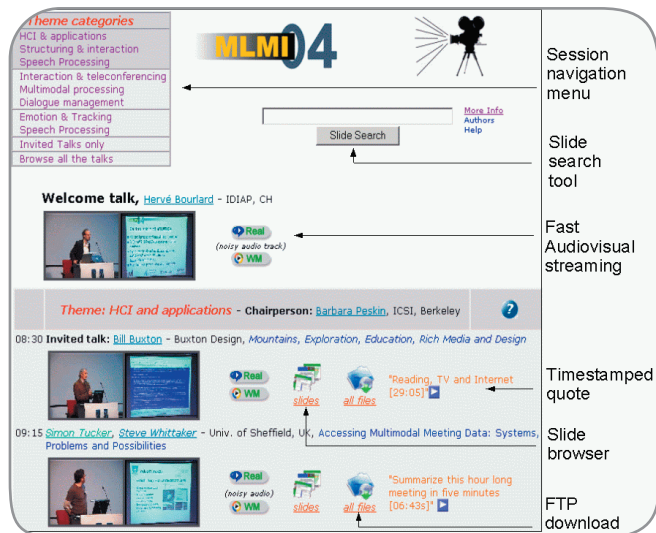
The MLMI'04 workshop gathered around 200 researchers from several related projects, (IM)2, the Integrated Project AMI, and the Network of Excellence PASCAL. Leading, or involved in these projects, IDIAP took the initiative to organize this large joint international workshop on machine learning and multimodal interaction.

There were a total of 23 oral presentations including eight invited keynotes and 15 talks, and 89 poster sessions. A selection of peer reviewed articles were published in Springer-Verlag proceedings LCNS (Ed. S. Bengio & H. Bourlard, see page 3).

The workshop recordings are now available on-line at:

<http://mmm.idiap.ch/mlmi04/>

The web interface allows fast audio-video streaming under multiple formats. An advanced slide retrieval system allows the user to search for a specific slide, as well as browsing and playing the associated video. Also all files are downloadable as a resource to the research community.



The screenshot shows the MLMI04 web interface. At the top, there's a search bar and a 'More Info' button. Below that, a list of theme categories is shown, including 'HCI & applications', 'Structuring & interaction', 'Speech Processing', etc. A 'Welcome talk' by Hervé Bourlard is featured, with options for 'Real' (noisy audio track) and 'WM'. Below that, a list of invited talks is shown, including '08:30 Invited talk: Bill Buxton' and '09:15 Simon Tucker, Steve Whittaker'. Each talk has options for 'Real', 'slides', and 'all files'. On the right side, there are navigation and utility buttons: 'Session navigation menu', 'Slide search tool', 'Fast Audiovisual streaming', 'Timestamped quote', 'Slide browser', and 'FTP download'.

MLMI04 Workshop recordings : <http://mmm.idiap.ch/mlmi04/>

After 3 years of monthly publications, the IM2 Newsletter changes its format and publication schedule. From now on, the newsletter will be circulated quarterly, and will contain more information, listed under various new columns.

SNSF gives greenlight for IM2 2006-2009

Feedback from the 3rd site visit of the SNSF Review Panel

On November 18-19, 2004, the SNSF-appointed Review Panel held its 3rd annual site visit in Martigny and assessed the achievements of the NCCR during the first 3 years of activity. On the basis of presentations by NCCR Director Prof. Hervé Bourlard and all IP Heads, as well as fruitful discussions, the panel's conclusions are very positive and promising for the future. For the first time, every individual project (IP) was assessed specifically in addition to global comments. We quote here some of the observations from the panel written report:

Overall the Review Panel is very happy with the state of development of the NCCR IM2 after 3 years of operation. IM2 is internationally competitive in all its research areas and a leader in some core areas (speech processing, scene analysis, multimodal integration). The performance of the individual projects is impressive. Excellent work was done on evaluation of the technical tools. A strong network with international projects and with industry is in place. The collaboration with universities has clearly improved. A long list of publications and a few patents are evidence of the successful work within IM2. The NCCR has obtained international visibility and recognition from which all the partners can benefit.

The synergies at the scientific and technical level are obvious. The research would not have taken its present strongly interdisciplinary aspect without the NCCR. The NCCR auspices allow to take a considerable amount of research risk which would be impossible without the long term vision of this funding instrument.

The presence and active role of IM2 representatives at international congresses is commendable. The collaborative projects with industry/CTI and with universities of applied science (HES) are excellent and a good complement to the basic research oriented parts of the NCCR. The IDIAP taps the regional potential for transfer activities in a convincing way (partnership with Cimtec-Valais, membership of «The ARK», connections to DEWS).

The Panel appreciates the strong involvement of the students into the research activities. Events like the Integration week or the IM2 Summer School and the expanded exchange with the International Computer Science Institute ICSI in Berkeley offer excellent opportunities for young scientists.

The Review Panel acknowledges the efforts in the recruiting of women and the gender balance in the data collection of the Smart Meeting Room. The new «IDIAP Fellowship for Female Researchers» is an excellent initiative. The gender segregated statistics look relatively good compared to Swiss averages.

Phase II of the NCCR approved by the SNSF

On the basis of the outline for the second phase of the NCCR (2006-2009) and the discussions during the 3rd site visit of the Review Panel, the NCCR Section of the SNSF decided to continue its funding in the second phase of IM2.

Due to the Swiss Government's decision to reduce the NCCR budget, the total SNSF funding for the second phase will be reduced to 14 millions Swiss francs, approximately 10% less than during the first phase, despite the recommendation of the Review Panel to increase IM2's funding.

The IM2 management team, in close collaboration with IP Heads and key seniors, is now preparing the full proposal for the second phase. It will follow the comments and requests from the Review Panel, some of which are quoted here:

The NCCR IM2 has established itself as a world-class research institution in the field of multi-modal human interaction and information management. The field is emerging as a critical one, with large potential impacts on scientific advances as well as engineering systems. Partly due to the influential work done by the NCCR in phase 1, the field has rapidly attracted an increasing level of interest and investment from many research groups and agencies worldwide.

The project topics for phase 2 are well thought out and planned. They cover hot research areas that are of high interest level on a global scale. All of them have accumulated excellent leverage and momentum in phase 1.

Phase 2 should not just expand the achievements of phase 1, but should leverage on phase 1 to gradually build a second significant application focus. The field multimodal processing and interaction is a rich area for new activities. IM2 is well positioned to take over a leading role here.

Next steps

2005 will be a transition year, as all the projects initiated during the first phase will come to an end. While most activities will continue in the framework of new projects, in some cases with different partners, the redefinition of the IPs (see last December's issue of the Newsletter) will leave the door open to new perspectives building on the achievements of phase 1.

More visibility for the Brain Machine Interface

In addition to the 7 IPs outlined for phase 2, the Review Panel strongly suggested to augment the visibility of the Brain Machine Interface activities, currently a sub-project of the IP on multimodal integration. The project board has formally approved this modification and the research plan for Phase 2 will include an IP dedicated to BMI.

Machine Learning for Multimodal Interaction

PROCEEDINGS OF THE FIRST INTERNATIONAL WORKSHOP, MLMI 2004, MARTIGNY, JUNE 2004

This book published by Springer in the «Lecture Notes in Computer Science» series contains a selection of refereed papers presented at the 1st Workshop on Machine Learning for Multimodal Interaction (MLMI 2004), held at the «Centre du Parc», Martigny, Switzerland, in June 21-23, 2004. The workshop was organized and sponsored jointly by IM2 and three European projects,

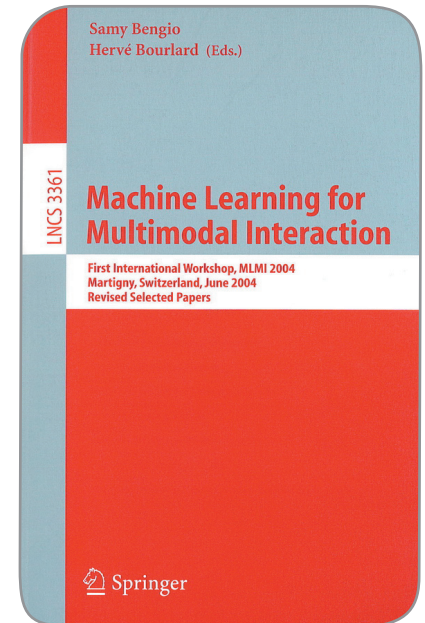
- AMI, <http://www.amiproject.org>
- PASCAL, <http://www.pascal-network.org>
- M4, Multi-modal Meeting Manager, <http://www.m4project.org>

Given the multiple links between the above projects and several related research areas, it was decided to organize a joint workshop bringing together researchers from the different communities working around the common theme of advanced machine learning algorithms for processing and structuring multimodal human interaction in meetings. The motivation for creating such a forum, which could be perceived as a number of papers from different research disciplines, evolved from a real need that arose from these projects and the strong motivation of their partners for such a multidisciplinary workshop. This assessment was indeed confirmed by the success of this first MLMI workshop, which attracted more than 200 participants.

The conference program featured invited talks, full papers (subject to careful peer review, by at least three reviewers), and posters (accepted on the basis of abstracts) covering a wide range of areas related to machine learning applied to multimodal interaction and more specifically to multimodal meeting processing, as addressed by the M4, AMI and IM2 projects.

Out of the submitted full papers, about 60% were accepted for publication in this volume, including 14 (out of 30) from IM2 members after the authors were invited to take review comments and conference feedback into account.

Based on the success of MLMI 2004, a series of MLMI workshops are now being planned, with the goal of involving a larger community, as well as a larger number of European projects working in similar or related areas. MLMI 2005 will be organized by the University of Edinburgh and held on 11-13 July 2005, also in collaboration with the NIST (US National Institute of Standards and Technology), while MLMI 2006 will probably be held in the US, probably in conjunction with a NIST evaluation.



Hervé Bourlard nominated full Professor at EPFL, and to receive the Christoffel Plantin award

Last December, the ETH/EPF Council nominated Hervé Bourlard, director of IM2 and IDIAP, full Professor in Speech Processing at EPFL.



Hervé Bourlard received the Electrical and Computer Science Engineering degree and the PhD degree in Applied Sciences from Faculté Polytechnique of Mons, Mons, Belgium, respectively in 1982 and 1992. From September 1982 to August 1990, he was a Research Scientist at the Philips Research Laboratory of Brussels, Belgium.

From September 1990 to July 1994, he was an R&D Manager (and member of the Board of Directors) at L&H Speech Products (Belgium).

From September 1988 to May 1989 (while still at Philips Research), Hervé Bourlard was on leave of absence from Philips as a Guest Scientist at the International Computer Science Institute (ICSI, <http://www.icsi.berkeley.edu>), Berkeley, CA. This resulted in a very successful and long-term (still going on) collaboration with ICSI. Since 1991, he has been an External Fellow of ICSI, with which he is involved in many common US and European research projects. Since January 2002, he is now a Member of the ICSI Board of Trustees.



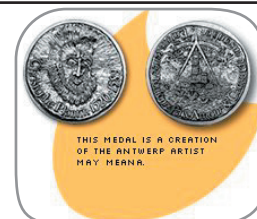
Prof. Hervé Bourlard, Director of IM2, was named Prize-winner of the 2005 Christoffel Plantin award. The Governor Camille Paulus will officially award the prize-winner's medal during an official ceremony at the room of the provincial council.

From the official Christoffel Plantin website : <http://www.christoffelplantinfonds.be>

The Christoffel Plantin award is granted to a Belgian citizen living abroad and whose cultural, artistic or scientific activities, little known in Belgium, contribute to our prestige in foreign countries.

Traditionally, since 1968, an award now amounting to 5.000 € will be handed over to the laureates on a yearly basis by the governor of the Province of Antwerp in the name of the members of the Christoffel Plantin Fund.

The members receive valuable information from the diplomatic and consular corps to assist them in making their choice.



Upcoming Events

SIAB meeting 10-11.2.05

The 2005 meeting of the Scientific and Industrial Advisory Board took place on February 10 and 11 in Martigny. The next edition of the Newsletter will come back on the conclusions of the meeting and the recommendations of the board members.



MLMI'05 11-13.7.05

Following on the success of MLMI'04, initiated by IM2, in collaboration with several other European projects, the University of Edinburgh (through CSTR, the Centre for Speech Technology Research) will host MLMI'05, 11-13 July 2005. It is expected that additional EU projects should join our initiative. Furthermore, MLMI'05 will also integrate a summer school organised by the European Masters in Speech and Language (11-15 July 2005), where IM2 (through IDIAP) is represented.



The Royal College of Physicians in Edinburgh

IM2 Events in 2005

A new edition of the Summer Institute and of the PhD students Integration Week are foreseen in 2005. More details will be announced in these columns and on the IM2 web site.

Partner News

Idiap extends further 2005-01-14

Despite a new building in 2002, IDIAP was again running short of office space to accommodate its growth. Since a third building was not feasible in the immediate surroundings of the Villa Tissières, IDIAP, with the support of the City of Martigny, seized the opportunity offered by UBS to occupy one floor of their building ideally located on Martigny's Main Square.



The new facilities offer a larger conference room for 100 people, and office space for about 20 people. This solution will also provide ideal facilities to host current or future IDIAP spin-offs such as Spiderphone and IdeArk.

Since last fall, the weekly IDIAP meetings as well as all major events - including the SNSF Review Panel Site Visit last November - take place in the new conference room. On October 26, a short ceremony allowed IDIAP and UBS staff members to meet and share experiences. UBS thus further strengthened their support for IDIAP's innovative and high added-value activities.



UBS Martigny Director Jean-Maurice Tornay welcomes IDIAP staff in their new conference room.

Major publications

PAC-learnability of Probabilistic Deterministic Finite State Automata,
Clark A. and Thollard F.
Journal of Machine Learning Research, n. 5, p.473-497, May 2004

Brain-Actuated Interaction
J. del R. Millán, F. Renkens, J. Mouri no, and W. Gerstner
«Artificial Intelligence», 2004

Speech recognition with auxiliary information
Todd A. Stephenson, Mathew Magimai-Doss, and Hervé Bourlard
IEEE Transaction on Speech and Audio Processing, 2004

Low rate and scalable image coding with redundant representations
R. Figueras i Ventura, P. Vanderghyest and P. Frossard
IEEE Transactions on Image Processing, 2004

A localization/verification scheme for finding text in images and video frames based on contrast independent features and machine learning method
D. Chen, J. Odobez and J. Thiran
Image Communication, Vol. 19, No 3, pp. 205-217, March 2004

Moment invariants for recognition under changing viewpoint and illumination, Computer vision and image understanding
F. Mindru, T. Tuytelaars, L. Van Gool, T. Moons
Computer Vision and Image Understanding vol. 94, pp. 3-27, 2004

Ensembles of classifiers for handwritten word recognition
Günter, S., Bunke, H.
Int. Journal on Document Analysis and Recognition, Vol. 5, No. 4, 2003

Offline Recognition of Unconstrained Handwritten Texts Using HMMs and Statistical Language Models
A. Vinciarelli, S. Bengio, and H. Bunke
IEEE Transactions on Pattern Analysis and Machine Intelligence», 2004

An Online Audio Indexing System
J. Ajmera, I. McCowan, and H. Bourlard
International Conference on Spoken Language Processing (ICSLP), 2004