INTERACTIVE MULTIMODAL INFORMATION MANAGEMENT

The (IM)2 Newsletter

Every month the (IM)2 Newsletter brings you the latest and hottest scientific and administrative news about the (IM)2 NCCR and related topics

Annual meeting of the Directors of Economic Affairs

IDIAP hosted the 2003 annual meeting of the Directors of Economic Affairs of the 26 Swiss cantons on October 23, 2003. Two conferences were given, by David Syz, State Secretary of Economic Affairs, on «Growth through Innovation: SME policy of the Swiss Confederation» and by Hervé Bourlard, Director of (IM)2, «IDIAP and the (IM)2 NCCR activities».

Staatssekretariat für Wirtschaft
Secrétariat d'Etat à l'économie
Segretorioto di Stato dell'economia
State Secretariat for Economic Affairs

s e c o

World Summit on Information Society

world summit on the information society
Geneva 2003 - Tunis 2005

In the framework of the World Summit on Information Society, CERN has organized an exhibition/conference (see sis-forum.web.cern.ch) on behalf of the world's scientific community called SIS-Forum@ICT4D (Science and Information Society Forum at the ICT4D, see www.ict-4d.org/Marketplace), as a moment and a place where a few selected research institutions could meet and present their projects and activities. The SIS-Forum@ICT4D exhibition was displayed at Palexpo, Geneva, from the 9th to the 13th of December 2003. It consisted of digital demonstrations and presentations of projects and activities, all focusing on science's leading role in driving the development of the Information Society.

SIS forum
organized by CERN
... where the Web was born

In this framework, IDIAP was invited to present their research in automatic meeting processing and their current developments in meeting browser, as resulting from national projects (such as (IM)2) and European projects (such as M4 and AMI). The IDIAP booth attracted a lot of attention from multiple visitors, including BBC who spent about 30 minutes interviewing and recording.

The (IM)2 booth, next to the world's first web server.

Dr Alessandro Vinciarelli, IDIAP, in front of the (IM)2 booth.

IDIAP PhD Student Award

Ronan Collobert has received the 2003 IDIAP PhD Student Award during the annual IDIAP dinner held at "La petite maison dans la prairie" on November 28. Two runner-up awards were also distributed to Jitendra Ajmera and Guillaume Lathoud.

The recipient of the annual IDIAP PhD Award is chosen by all the seniors working at IDIAP on the basis of 4 criteria:

- scientific quality, publications;
- autonomy, initiative;
- involvement in other projects;
- social and communication skills.

Ronan has been a PhD Student at IDIAP since 2000, in the Machine Learning group under the supervision of Samy Bengio. In 2001, he went to Montreal in Yoshua Bengio's group. He is now back at IDIAP and should complete his PhD on optimization techniques in machine learning in 2004. In addition to being a great researcher, Ronan is known as the main contributor and guru of the Torch machine learning library www.torch.ch, and is author of 10 publications. The (IM)2 newsletter staff congratulates Ronan for this award.

LITH ranked 3rd at TREC

EPFL's Computer Science Theory Laboratory (LITH) ranked 3rd among 14 at TREC on the information extraction task of the Genomic Track (medir.ohsu.edu/~genomics). The strategy was based on a classifier developed in the framework of (IM)2.MDM.

2004

This is the last (IM)2 Newsletter issue for 2003. We wish you all a peacefull holiday season and a happy new year.

Events

Overview of 2004

The major events for (IM)2 in 2004 are:
February 12–13: (IM)2 Scientific and Industrial Advisory Boards Meeting.
June 21–25: The annual (IM)2 Summer Institute, synchronized this year with the first joint (IM)2-AMI-PASCAL workshop on multimodal processing (see below).
in September: the submission of the third annual progress report to SNSF, together with the first outline for the period 2006-2009.
in late October – early November: the SNSF Review Panel Site Visit.

2004 (IM)2 Workshop 21–25.06.03

The dates for the 2004 (IM)2 workshop have been decided: it will be organised as part of a one-week event in multimodal processing which will also see the active participation of researchers from the AMI and PASCAL european projects. Full details of the program, including days reserved for tutorials, presentations and board meetings will be announced later, but you can already book this week for an important event in Martigny.

Multimodal Technologies 05.02.03

SCSC'04, the Swiss Computer Science Conference, will be held on February 5, 2004 in Bern. The central theme this year is Multimodal Technologies, and features talks by (IM)2 researchers B. Pfister (ETHZ), P. Wellner (IDIAP), M. Rajman (EPFL), and R. Ingold (UniFR). More information at scsc04.vptt.ch.

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The new Individual Projects for 2004-2005

Most of the Individual Projects (IPs) had been defined in early 2002 for a duration of two years. Despite the addition of a first round of white paper projects in the second half of 2002, these IPs are now almost completed and it was time to redefine research objectives for the period 2004-2005. This was done on the basis of the discussions held during the 2003 Summer Institute in Crans-Montana. The result is a set of 8 IPs, most of which in the continuation of the previous projects, but also including new tasks or partners.

Among the major changes, (IM)2.DS (Multimodal Information: Deployment, Storage, and Interactive Access) has been terminated as an individual project and some of its activities merged into the Integration project (IM)2.IP. Activities that were started as white paper are now fully integrated in the IPs. We give here a brief overview of the new IPs, with their focus, budgets and teams.

(IM)2.ACP

Access and Content Protection

Head: Prof. H. Bunke, UniBE
Partners: UniBE, EPFL, ETHZ, IDIAP, UniFR

(IM)2.ACP welcomes UniFR as new partner and will pursue research in five areas: face localization and verification, text dependent and independent speaker verification, fingerprint classification, combination of multiple modalities, and multimodal database acquisition and demonstrator.

(IM)2.DI

Document Integration

Head: Prof. R. Ingold, UniFR
Partners: UniFR, EIF

(IM)2.DI deals with multimodal alignment of various types of documents with video and speech recordings. Different kind of static documents used during a meeting, either distributed in paper form or projected on a screen, will be analyzed and compared to video and speech data in order to allow further linking between the different modalities. The main objective of the IM2 Document Integration project is to bridge the gap between documents, non-temporal data, and other medias.

(IM)2.IIR

Information Indexing and Retrieval

Head: Prof. T. Pun, UniGE
Partners: UniGE, EPFL, IDIAP

The goal of (IM)2.IIR is the study of multimedia data indexing and retrieval, and of multimodal querying mechanisms. For 2004-2005, besides basic research, we emphasize the integration of the individual components. The directions of research will be the following: low-level processing, structural analysis of data; interaction, navigation, user preferences learning; semantics and annotations; and system architecture, multimedia data and query format.

(IM)2.IP

Integration Project

Head: Dr P. Wellner, IDIAP
Partners: IDIAP, EPFL, HEVs

The purpose of this (IM)2.IP is to integrate work from multiple partners and enable the different research projects to build on each other's systems and data to produce integrated results. It includes work in five main areas: the meeting browser, the multimodal media file server, the SQL annotation database, the collection of a new meeting corpus (in collaboration with (IM)2.MI), and Human Computer Interface (HCI) aspects.

(IM)2.MDM

Multimodal Dialog Management

Head: Prof. S. Armstrong, UniGE
Partners: UniGE, EPFL

The goal of (IM)2.MDM is to combine a framework for automatic dialogue processing, with a database, and a multimodal interface providing access to multimedia recordings of multiparty meetings. For 2004-2005, aside from the on-going research into the different aspects of dialogue processing and querying of data, we will extend the work to incorporate information from different modalities as it becomes available (e.g., documents, speech recognition, facial recognition, video). The multimodal interface will be extended with refined dialogue models and new multimodal input.

(IM)2.MI

Multimodal Integration

Head: Dr S. Bengio, IDIAP
Partners: IDIAP, UniGE, HUG, CESM

The (IM)2.MI IP will focus on multi-stream/multimodal processing, working on the collection of a new meeting database; research on new multi-stream algorithms; and the continuation of the development of Torch as a unifying tool to integrate multiple sources of information and multiple algorithms. Last but not least, it will continue to host the Brain-Machine Interface project.

(IM)2.SA

Scene Analysis

Head: Prof. J.-P. Thiran, EPFL, and Prof. L. Van Gool, ETHZ
Partners: EPFL, ETHZ, UniGE, UniBE, IDIAP

The objectives of (IM)2.SA so far have been to advance several, fundamental processes in the analysis of images, ranging from the representation of image data, over the crucial step of segmentation, up to tracking. In keeping with IM2's interest in multi-modal human-machine interaction, special attention has also been given to the detection of faces, person tracking, and the analysis of handwriting.

(IM)2.SP

Speech Processing

Head: Prof. H. Bourlard, IDIAP, and Prof. H. Hermansky, IDIAP
Partners: IDIAP, ETHZ, ICSI, HEVs

The goal of (IM)2.SP is to provide the IM2 NCCR with advanced and flexible speech processing modules which can be used as an input mode (voice input), as an audio indexing tool (requiring large vocabulary, continuous speech recognition systems, speaker clustering, metadata extraction from audio) turning audio files into text complemented by meta-data information, and as an output mode (requiring speech coding and text-to-speech systems). This is achieved by: exploiting and improving state-of-the-art speech recognition technology, as applied to the targeted applications (e.g., meeting room), and aiming at investigating dramatically different paradigms based on human like processing.