CHIST-ERA Projects Seminar 2016 – Bern, April 27-29

Demos

Abstracts list:

From Data to New Knowledge (Call 2011)
MUCKE – Multimedia And User Credibility Knowledge Extraction
READERS – Evaluation And DEvelopment of Reading Systems
REFRAME – Rethinking the Essence, Flexibility and Reusability of Advanced Model Exploitation
uComp – Embedded Human Computation for Knowledge Extraction and Evaluation

Green ICT, towards Zero Power ICT (Call 2011)
E-CROPS – Wearable Battery-less Wireless Sensor Network System with Electromagnetic Energy Harvesting from Body Motion
STAR – SwiTching And tRansmission

Context- and Content-Adaptive Communication Networks (Call 2012)
CONCERT – A Context-Adaptive Content Ecosystem Under Uncertainty
DISEDAN – service and user-based DIstributed SElection of content streaming source and Dual AdaptatioN
MACACO – Mobile context-Adaptive CAching for COntent-centric networking

Intelligent User Interfaces (Call 2012)
eGlasses – eGLASSES – The interactive eyeglasses for mobile, perceptual computing
IMOTION – Intelligent Multimodal Augmented Video Motion Retrieval System
JOKER – JOKe and Empathy of a Robot/ECA: Towards social and affective relations with a robot

Heterogeneous Distributed Computing (Call 2013)
DIVIDEND – Distributed Heterogeneous Vertically IntegrateD ENergy Efficient Data centres

Human Language Understanding: Grounding Language Learning (Call 2014)
AMIS – Access Multilingual Information opinionS

Demo/Poster:	Demo
Representative name:	Mihai Lupu
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Country:	Austria
Topic:	From Data to New Knowledge (D2K)
Project:	MUCKE

Title:

A System for Concept- and Credibility-Based Multimedia Retrieval

Abstract:
We present a multimedia retrieval system framework that incorporates components for processing multimedia content in different modes and languages. The framework provides concept-based information retrieval facilities that applies credibility information for result re-ranking. The architecture combines both a direct user interface and a batched evaluation interface for reproducible research in multimedia IR. The demo presents a preliminary version of the system framework and shows a use case based on the ImageCLEF 2011 Wikipedia test collection.

Demo/Poster:	Demo
Representative name:	Alexandru Ginsca
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Country:	Romania
Topic:	From Data to New Knowledge (D2K)
Project:	MUCKE

Title:

Semfeat: A semantic content based image retrieval system

Abstract:
The semantic gap is a fundamental problem which limits the usefulness of content based image retrieval (CBIR).

Here we present a CBIR system which exploits a semantic image feature in order to explain similarities between query images and results.

Semfeat is built by using the predictions of an 17462 classifiers of ImageNet concepts and is thus expressive enough in order to describe a wide range of images.

The feature is sparse since only the top 10 prediction are retained in each image representation.

Consequently, the retrieval is performed using an inverted index structure and is thus very fast.

The demo is implemented over a set of 100 million diversified Flickr images and the average retrieval latency is approximately one second.

Demo/Poster:	Demo
Representative name:	Anselmo Peñas
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Topic:	From Data to New Knowledge (D2K)
Project:	READERS

Title:

Creating interactive FAQ using Machine Reading

Abstract:
The presented demonstrator is a public version of the demonstrator developed in Readers project. It exploits the reading platform developed in WP4, which itself integrates Background Reading, Knowledge Linking and Integration results from other READERS WPs. The developed component showcases Machine Reading technologies by extracting knowledge from documents and automatically generating questions and their answers related to the extracted knowledge. The user interacts with the demonstrator through a web interface in which he can input any text; this text is analyzed to generate questions and answers, which can then be indexed and sent to a question-to-question matcher, thus building an interactive FAQ without any manual work.

Demo/Poster:	Demo
Representative name:	Nicolas Lachiche
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Topic:	From Data to New Knowledge (D2K)
Project:	REFRAME

Title:

Reframing in clowdflows

Abstract:
Clowdflows is an open-source software that enable users to define and run entire data mining process from a web browser and an internet connection. Computations run in the cloud, that is to say transparently on several servers, sharing computations or hosting data. In this demo, we remind the strengths of clowdflows and we present reframing tools that we recently integrated into clowdflows. Therefore clowdflows can now handle different changes of contexts between training and deployment.

Demo/Poster:	Demo
Representative name:	Arno Scharl
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Country:	Austria
Topic:	From Data to New Knowledge (D2K)
Project:	uComp

Title:
    uComp - Embedded Human Computation for Knowledge Extraction and Evaluation

Abstract:
This demonstration will summarize the results of the uComp research project including two publicly available applications of its crowdsourcing framework: the Language Quiz and the Climate Challenge, two online competitions in the tradition of games with a purpose. They reflect the flexibility of uComp architecture, which supports multiple languages and the seamless integration of heterogeneous task types. The Language Quiz helps to acquire language resources for improving factual and affective knowledge extraction algorithms. The Climate Challenge has a wider scope and combines language resource acquisition tasks with pledges to adopt sustainable lifestyle choices, as well as predictive tasks to estimate future climate-related conditions.

Project Web Site -- www.ucomp.eu

Crowdsourcing Applications

Language Quiz -- quiz.ucomp.eu

Climate Challenge -- www.ecoresearch.net/climate-challenge

Demo/Poster:	Demo
Representative name:	Hasan Ulusan
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Topic:	Green ICT, towards Zero Power ICT (G-ICT)
Project:	E-CROPS

Title:
Wearable Battery-less Wireless Sensor Network System with Electromagnetic Energy Harvesting from Body Motion

Abstract:
The demonstration will exemplify the experimental studies conducted at the E-CROPS project. In the scope the ECROPS project, experimental studies have been focused on the design, fabrication, and characterization of energy harvesters and combining these harvesters with Wireless Sensor Networks (WSNs). Vibration is selected as the energy source because of its abundancy and availability. Electromagnetic energy harvesters which are suitable for operation at low frequencies are utilized at the demonstrated system. As an application, wrist vibration characteristics of a running person are obtained and an electromagnetic energy harvester is designed corresponding to these characteristics. Moreover, a battery-less energy harvesting WSN system is obtained by combining the characterized electromagnetic energy harvester and a MicaZ sensor node. The demonstrated system provides maintenance-free operation and adjustment of the sensing-rate according to jogger activity. It is shown that energy-level-based adjustment of sensing and transmitting time-interval can prolong the lifetime of the battery-less sensor node. The presented WSN measurement nodes provide reliable long-term operation as attached to human body, which is experimentally demonstrated.

Demo/Poster:	Demo
Representative name:	Laurent Lefevre
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Topic:	Green ICT, towards Zero Power ICT (G-ICT)
Project:	STAR
Title: tba **Abstract:** tba	

Demo/Poster:	Demo
Representative name:	Hermann Hellwagner
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Topic:	Context- and Content-Adaptive Communication Networks (C3N)
Project:	CONCERT

Title:

Emulating NDN-based Multimedia Delivery

Abstract:
Named Data Networking (NDN) is a promising candidate for the Future Internet. In this demo we present our NDN test-bed consisting of over 20 low-budget Banana Pi Routers. We show-case pull-based adaptive video streaming, enabling performance evaluations of different client-based adaptation mechanisms at the application level and different forwarding strategies at the network level.

By using a web-interface, the emulation can be re-configured by volunteers among the visitors. They may vary i) the network topology and link capacities, ii) client-based multimedia adaptation strategy, and iii) the network's forwarding strategy. Once all emulation parameters are specified, the emulation is started and visitors may observe the emulation in near real-time using the web-interface. The web-interface shows the current network topology as well as per-node details such as CPU load, RAM usage, network traffic and power consumption.

Due to the large number of components and space required for the testbed hardware, we can not take the entire testbed with us. Instead, we will bring one fully equipped Banana Pi Router for visitors to get their hands on. The testbed itself will be demonstrated via a web-interface only.

Demo/Poster:	Demo
Representative name:	Joachim Bruneau-Queyreix
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Country:	France
Topic:	Context- and Content-Adaptive Communication Networks (C3N)
Project:	DISEDAN

Title:

Multiple Description-DASH: Pragmatic multiple sources and multiple paths DASH streaming maximizing Quality of Experience

Abstract:
Over the past few years, adaptive bitrate streaming protocols (DASH) have risen and been widely deployed to enhance end-user's experience toward video consumption over the Internet. Current methods perform a smoother playback (i.e., fewer re-buffering states) trading off with quality fluctuations due to the client-server link state. This show-case acknowledges the client-centric approach and demonstrates an innovative lightweight streaming system that gives means to consume content from multiple sources and multiple paths at the same time. Thanks to its codec agnosticism and DASH-compliance, this system is a pragmatic and evolving solution that can be applied to any streaming architecture model (P2P, CDNs, Clouds). The essence of the proposal lies with light innovations brought at the content delivery strategy, the coding/decoding scheme and the streaming protocol in order to achieve simultaneous sub-streams retrieval and aggregate bandwidth over multiple links. Furthermore, we enriched the clients' roles with content bitrate and server switching decisions in order for clients to determine the best available streaming server and its associated path in terms of bandwidth, any time and for a given content. This client has been implemented as an extension of the dash.js player and consumes content respecting the H.264 AVC standard.

Demo/Poster:	Demo
Representative name:	JAFFRES-RUNSER Katia
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Country:	France
Topic:	Context- and Content-Adaptive Communication Networks (C3N)
Project:	MACACO

Title:

MACACO apps for crowdsourcing and pre-fetching

Abstract:
MACACO project has developed Android apps for several purposes. The first app is a data collection app (http://macaco.inria.fr/macacoapp/) that provides regular measurements on the context and content mobiles users are developing. The purpose of this app is to generate a data set we can rely on for extracting correlations between content and context. The second app provides a first implementation of our pre-fetching strategy to offload cellular data onto wifi networks.

Demo/Poster:	Demo
Representative name:	Alexey Andrushevich
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Topic:	Intelligent User Interfaces (IUI)
Project:	eGlasses

Title:

<div align="center">User interaction with smart glasses</div>

Abstract:
The eGlasses project focuses on developing an open platform for multisensory electronic glasses that support new intelligent interaction methods. Information perceived by eGlasses is automatically processed based on user interactions (e.g. controlled by eye-tracking) or without them (e.g. using context-based analysis). The processing unit combines multisensory data and information discovered from measured data sets (e.g. respiratory rate from a video sequence). During the meeting the eGlasses prototype will be presented. Additionally, selected interaction methods and applications of the eGlasses platform will be illustrated.

Demo/Poster:	Demo
Representative name:	Heiko Schuldt
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Topic:	Intelligent User Interfaces (IUI)
Project:	IMOTION

Title:

IMOTION - Intelligent Multi-Modal Augmented Video Motion Retrieval System

Abstract:
With the proliferation of video recording devices embedded into a large variety of (mobile) devices and the resulting abundance of digital video, finding a particular video sequence in collections that increasingly grow is more and more becoming a major challenge. Existing approaches to retrieve videos are mostly based on manually added keywords and thus require on prior knowledge about the origin and context of a particular video to work properly. In this demo we present the IMOTION video retrieval system which follows a novel and innovative approach for searching in large video collections. It supports the search for video sequences on the basis of (one or several) still images, (one or several) user-provided sketches, sample video sequences, and -most importantly- the specification of motion via flow fields; and it allows to seamlessly combine all these modes. Moreover, IMOTION uses deep neural net-based semantic feature extractors and is thus able to search for objects to be present within the target sequence.

Demo/Poster:	Demo
Representative name:	Bekir Berker Türker
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Topic:	Intelligent User Interfaces (IUI)
Project:	JOKER
Title: tba **Abstract:** tba	

Demo/Poster:	Demo
Representative name:	Albert Cohen
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Topic:	Heterogeneous Distributed Computing (HDC)
Project:	DIVIDEND

Title:
Deployment and energy footprint monitoring of a compute-intensive data center application of a heterogeneous platform.

Abstract:
The demonstration provides a visual illustration of the energy monitoring system developed in the context of the DIVIDEND project.

It will demonstrate the automatic deployment and energy monitoring of a data center application with a strong computational component on a heterogenous platform, in this case an AMD APU implementing the HSA specification. The visitor will be able to follow the energy footprint of each system component as well as the global resource usage.

Demo/Poster:	Demo
Representative name:	Begoña Garcia-Zapirain
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Topic:	Human Language Understanding: Grounding Language Learning (HLU)
Project:	AMIS
Title: tba **Abstract:** tba	