

Scientific Presentations - Abstracts list

Monday, September 1st

Session Scientific Talks – Andrei Popescu-Belis

- Title** Can we tame mobile research in the wild?
- Speaker** Daniel Gatica-Perez (Idiap Research Institute)
- Schedule** 14:30 – 15:00
- Abstract** Smartphones are generating an unprecedented range of research opportunities. In this talk, I will review two large-scale research initiatives (jointly with Nokia Research) aimed at advancing methods for smartphone sensing and data analysis in everyday life: the Lausanne Data Collection Campaign and the Mobile Data Challenge. Starting from the view that mobile technologies should contribute to the common good, these initiatives have explored the opportunities and tensions present in socio-technical systems by studying many of the components of mobile research - from raw sensor data to communities of researchers worldwide - under a common lens. The initiatives resulted, on one hand, in over one year of real-life data of a population of about 200 smartphone users in Switzerland, and on the other hand, in hundreds of researchers interested in working with it. I will discuss the kind of scientific insights that have emerged from this work, and discuss what the near future could bring regarding the study of mobile systems in the wild.
- Title** Using dual eye-tracking methods to measure socio-cognitive processes during collaborative activities
- Speaker** Marc-Antoine Nuessli (EPFL - CRAFT)
- Schedule** 15:00 – 15:30
- Abstract** Applied eye-tracking has been extensively used for the study of psychological processes. More recently, some researchers have used this technique to study the interaction between people by tracking and analyzing eye-movements of two persons synchronously. In my PhD thesis, we used a similar methodology, dual eye-tracking, to study people in natural, semantically rich, tasks with the aim of identifying dual eye-movement patterns which reflect collaborative processes.
- In this talk, I will first briefly present methodological and technical issues that are related to dual eye-tracking, as well as some solutions to these problems that we developed. Secondly, the main part of talk will be devoted to the presentation of experimental studies of collaboration through the use of dual eye-tracking methods. I will give an overview of the various experiments that we conducted and the main results that we found. Finally, I will focus more on a specific result which concerns the link between gaze and speech. In this respect, I will present a computational model that we developed to make actual predictions about dialogue and visual references.

Title Acoustic data-driven lexical modeling
Speaker Mathew Magimai-Doss (Idiap Research Institute)
Schedule 16:00 – 16:30
Abstract Automatic speech recognition (ASR) system or text-to-speech system typically model a word as a sequence of phonemes/phones. Thus, one of the first steps, when building an ASR system or a TTS system, is development of the lexicon. Development of lexicon typically involves grapheme-to-phoneme conversion (G2P), where given a word, i.e. a sequence of alphabets/graphemes, the goal is to obtain a plausible sequence of phonemes. This talk presents Idiap's current research initiatives towards development of an acoustic data-driven G2P approach and its potential implication towards multilingual speech processing.

Title Large-scale data processing and indexing
Speaker Hisham Mohamed (Viper group - Dept of Computer Science - University of Geneva)
Schedule 16:30 – 17:00
Abstract The rise of the volume of available collections of data or documents imposes to use distributed processing and access methodologies. We review the basic principles of distributed information processing, including the generic MapReduce model. We show how this simplified distributed model helps processing massive data sets while keeping the user away from programming complexity. We then also highlight the limitations of this model and review proposal made in the context of IM2 for overcoming these limitations. Example results on multimedia processing are discussed.

Session Official Opening – Chairman: Hervé Boulard

Title Feeling Good
Speaker Benjamin Levy, San Francisco, CA, USA, Partner, BootstrapAdvisor
Schedule 17:30
Abstract It's a new dawn...it's a new day... the words from Anthony Newley and Leslie Bricusse's song "Feeling Good" could not better describe the world in which we live in today as entrepreneurs, investors, professors, employees, parents or just consumers. The last 30 years of technological innovation have radically changed the way we communicate, we work, we socialize, we travel, we make decision and manage our time. Where some see threats and challenges, others will see incredible opportunities and rewards. In his presentation, the author takes us through some of the fundamental shifts that are impacting technology startups, their investors and surrounding ecosystem while making the argument that there has rarely been a better time in history to start a (technology) company.

Short Bio Ben is a Co-Founder and Partner of BootstrapAdvisor, an exclusive San Francisco-based accelerator for innovative European technology companies. Born and educated in France, but also a Swiss National, he moved to Silicon Valley in 1998 and spent the last 14 years building, advising and coaching technology companies and their management teams. Over his career Ben helped raise over \$300M in equity from institutional investors and close \$5Bn worth of M&A transactions. During the past year and half, Ben focused the majority of his time on the mobile internet space and traveling back to Europe to share his lessons learned in Silicon Valley.