

TREC Video Retrieval Evaluation

TRECVID

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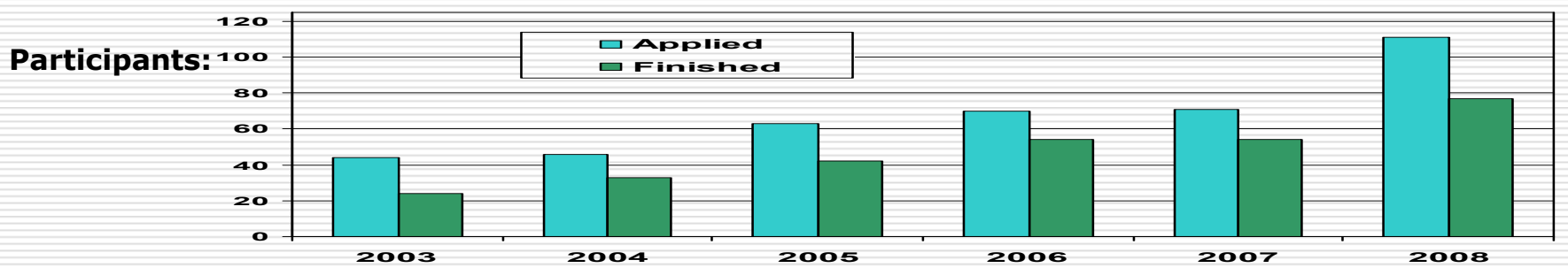
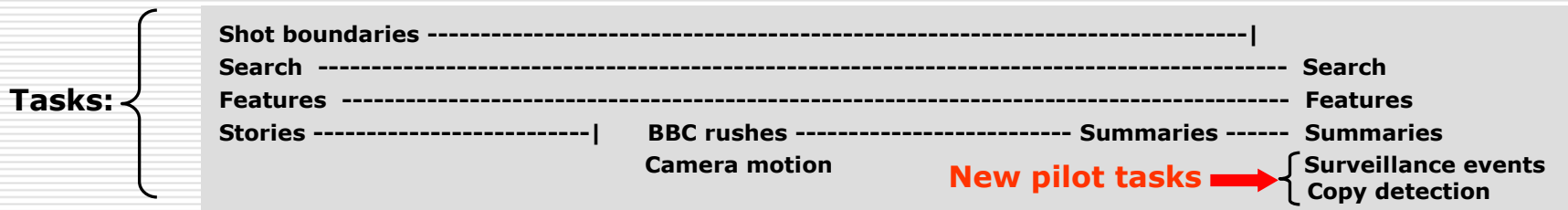
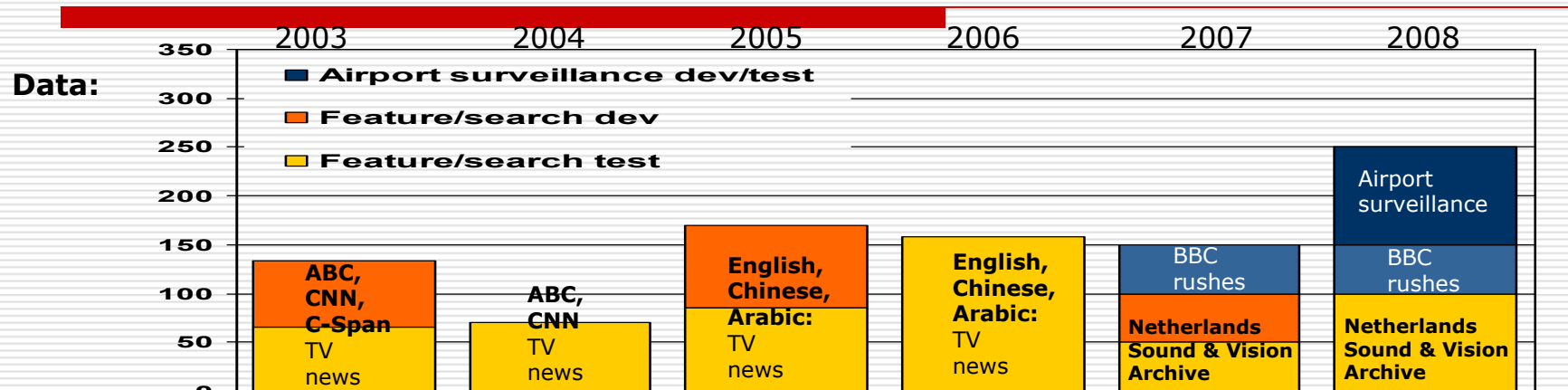
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*Retrieval Group / **Speech Group
Information Access Division
NIST

Goals and strategy

- Promote progress in content-based analysis, detection, retrieval in large amounts of digital video –
 - combine multiple errorful sources of evidence
 - achieve greater effectiveness, speed, usability
- Confront systems with unfiltered data and realistic tasks
- Measure systems against human abilities
- Focus on relatively high-level functionality – near that of an end-user application like **interactive search**
- Supplement with focus on supporting and related automatic components:
 - Automatic search, High-level feature detection
 - Content-based copy detection, Event detection
- Integrate and profit from advances in low-level functionality, more narrowly tested elsewhere:
 - face recognition, text extraction, object recognition, etc.

Evolution: data, tasks, participants,...



Year	Peer-reviewed papers
2003	17
2004	51
2005	40
2006	54
2007	56
2008	???

2008: Details

- Data:
 - 200 hrs - Netherlands Institute for Sound and Vision (S&V)
 - 40 hrs - BBC
 - 100 hrs of airport surveillance data - UK Home Office
- 5 evaluated tasks
 - S&V news magazine, cultural, educational/entertainment
 1. Content-based copy detection – 2010 video queries,...
 2. High-level feature extraction - 20 features
 3. Search (automatic, manually-assisted, interactive) - 48 topics
 - BBC dramatic rushes, unedited
 4. Video summarization
 - Airport surveillance video (5 cameras * 2 hours * 10 days)
 5. Surveillance event detection

TV2008 Finishers

# Groups Applied	# Groups Finished	Task code	Task name
53	22	CD	Copy detection
74	18	ED	Event detection
64	43	FE	Feature extraction
44	31	RU	Rushes summarization
52	28	SE	Search

TV2008 Finishers

Athens Information Technology	-- ED -- -- --
Asahikasei Co.	-- ** FE RU --
AT&T Labs - Research	** -- -- RU --
Beckman Institute	-- ED -- -- --
Bilkent University	CD -- FE -- **
University of Bradford	CD ** -- RU --
Beijing Jiaotong University	CD ** ** -- **
Brno University of Technology	CD ED FE ** SE
Beijing University of Posts and Telecommunications	CD ** FE -- --
Carnegie Mellon University	-- ED FE RU **
Columbia University	CD -- FE -- SE
Computer Research Institute of Montreal	CD -- -- -- --
COST292 Team (Delft Univ.)	CD ** FE RU SE
cs24_kobe (Kobe Univ.)	-- -- ** -- SE
Dublin City University	-- ED -- RU SE
ETIS Laboratory	** ** ** RU **
EURECOM	-- ** ** RU --
Florida International Univ.	-- ** FE -- --
Fudan University	CD ED FE -- SE
FX Palo Alto Laboratory	-- -- -- RU SE
IBM T. J. Watson Research Center	CD ** FE ** SE
INRIA-LEAR	CD -- FE -- --
INRIA-IMEDIA	CD -- ** -- **

** : group applied but did not submit a run

-- : group didn't apply for the task

TV2008 Finishers

IntuVision, Inc.	-- ED -- -- --
Ipan_uoi (University of Ioannina)	-- ** ** RU **
IRIM	** ** FE RU **
ISM (The Institute of Statistical Mathematics)	-- -- FE -- --
Istanbul Technical University	CD -- -- -- --
IUPR-DFKI	** -- FE -- --
JOANNEUM RESEARCH Forschungsgesellschaft mbH	** ** FE RU --
KB Video Retrieval	-- -- -- -- SE
K-Space	-- -- ** RU SE
LIG (Laboratoire d'Informatique de Grenoble)	** -- FE -- **
Laboratoire LIRIS (LYON)	-- ** FE ** **
University of Twente and CWI	-- -- FE -- SE
LSIS_GLOT (CNRS LSIS)	-- -- FE -- --
Marburg	** ** FE ** **
Chinese Academy of Sciences (MCG-ICT-CAS)	CD ED FE -- SE
Mediamill (Univ. of Amsterdam)	-- ** FE -- SE
MESH	-- -- FE -- SE
MMIS (Open Univ.)	** -- FE -- SE
Microsoft Research Asia	** ** FE ** SE
NHKSTRL	** ED FE RU **
National Institute of Informatics	CD ** FE RU SE
National University of Singapore	-- -- -- -- SE
National Taiwan University	** ** FE -- SE

TV2008 Finishers

NTT Cyber Solutions Laboratories	-- -- ** RU --
Orange Labs - France Telecom Group	CD -- -- -- --
Osaka University	-- ** -- RU --
Oxford Univ.	** -- FE -- SE
PKU-ICST (Peking Univ.)	** ** FE ** SE
PicSom (Helsinki University of Technology)	CD -- FE RU SE
Queen Mary University of London	-- ED -- -- --
Queensland University of Technology	-- -- FE RU --
REGIM	-- ** FE RU SE
Shanghai Jiao Tong University (SJTU)	-- ED FE -- SE
SP-UC3M (Universidad Carlos III de Madrid)	-- -- FE -- SE
The Hong Kong Polytechnic University	** -- -- RU --
Tsinghua University - Intel China Research Center	CD ** FE RU SE
Tsinghua University	-- ED -- ** --
TNO-ICT	CD ** -- -- --
Toshiba Corporation	-- ED -- -- --
Tokyo Institute of Technology	-- ED FE RU --
University of Alabama	-- -- -- -- SE
University of Electro-Communications	** ** FE RU **
University of Glasgow	CD -- ** RU SE
University of Karlsruhe (TH)	-- -- FE -- --
University of Ottawa - SITE	-- ** -- RU --
University of Sheffield	** -- -- RU --

TV2008 Finishers

University of Southern California	-- ED -- -- --
Universidad Rey Juan Carlos	-- -- -- RU **
Universidad Autonoma de Madrid	-- ED -- RU --
Universite Pierre et Marie Curie - LIP6	** ** FE RU --
VIREO (City University of Hong Kong)	CD ** FE RU SE
vision@ucf (University of Central Florida)	CD ED ** -- **
VITALAS (CERTH-ITI (GR), CWI(NL), U.Sunderland (UK))	-- -- FE -- SE
XJTU (Xi'an Jiaotong University)	** -- FE -- --

Additional resources and contributions

- ❑ City University of Hong Kong, the Laboratoire d'Informatique de Grenoble, and the University of Iowa helped out in the distribution of video data by mirroring the them online.
- ❑ Christian Petersohn at the Fraunhofer (Heinrich Hertz) Institute in Berlin provided the master shot reference
- ❑ Roeland Ordelman and Marijn Huijbregts at the University of Twente donated the output of their automatic speech recognition system run on the Sound and Vision data
- ❑ Christof Monz of Queen Mary, University London, who contributed machine translation (Dutch to English) for the Sound and Vision video.
- ❑ INRIA's Nozha Boujemaa, Alexis Joly, and Julien.Law-to led the design of the copy detection task, in particular regarding the definitions of the video transformations. They provided an independent person, Laurent Joyeux, who created original queries and applied the 10 video transformations in a process blind to the ground truth.
- ❑ Dan Ellis at Columbia University devised and applied the audio transformations to produce the audio-only queries for copy detection.

Additional resources and contributions

- Georges Quénot and Stéphane Ayache of LIG (Laboratoire d'Informatique de Grenoble) organized a collaborative annotation of 2008 development data for 20 features. 40 groups contributed a total of 1.2 million image x concept annotations.
- The Multimedia Content Group at the Chinese Academy of Sciences provided full annotation of test features for 2008 training data including location rectangles for object features.
- Columbia University and the City University of Hong Kong contributed detection scores for the 2008 data: CU-VIREO374.
- The University of Amsterdam provided 2 benchmarks for assessing mappings of topics to concepts for video retrieval.
- Phil Kelly at Dublin City University (DCU) assisted with the assessment of the rushes summaries.
- Carnegie Mellon University created a baseline summarization run to help put the summarization results in context.

Agenda: Day 1

- ❑ Arranged by task
- ❑ Time for discussion of approaches & evaluation
- ❑ **Monday**
 - ❑ Intros
 - ❑ Search
 - ❑ Rushes summarization - report from ACM MM '08 workshop
 - ❑ Copy detection
 - ❑ **Lunch**
 - ❑ Copy detection (conclusion)
 - ❑ Demo/Poster previews
 - ❑ Demos & Posters
 - ❑ Workshop supper

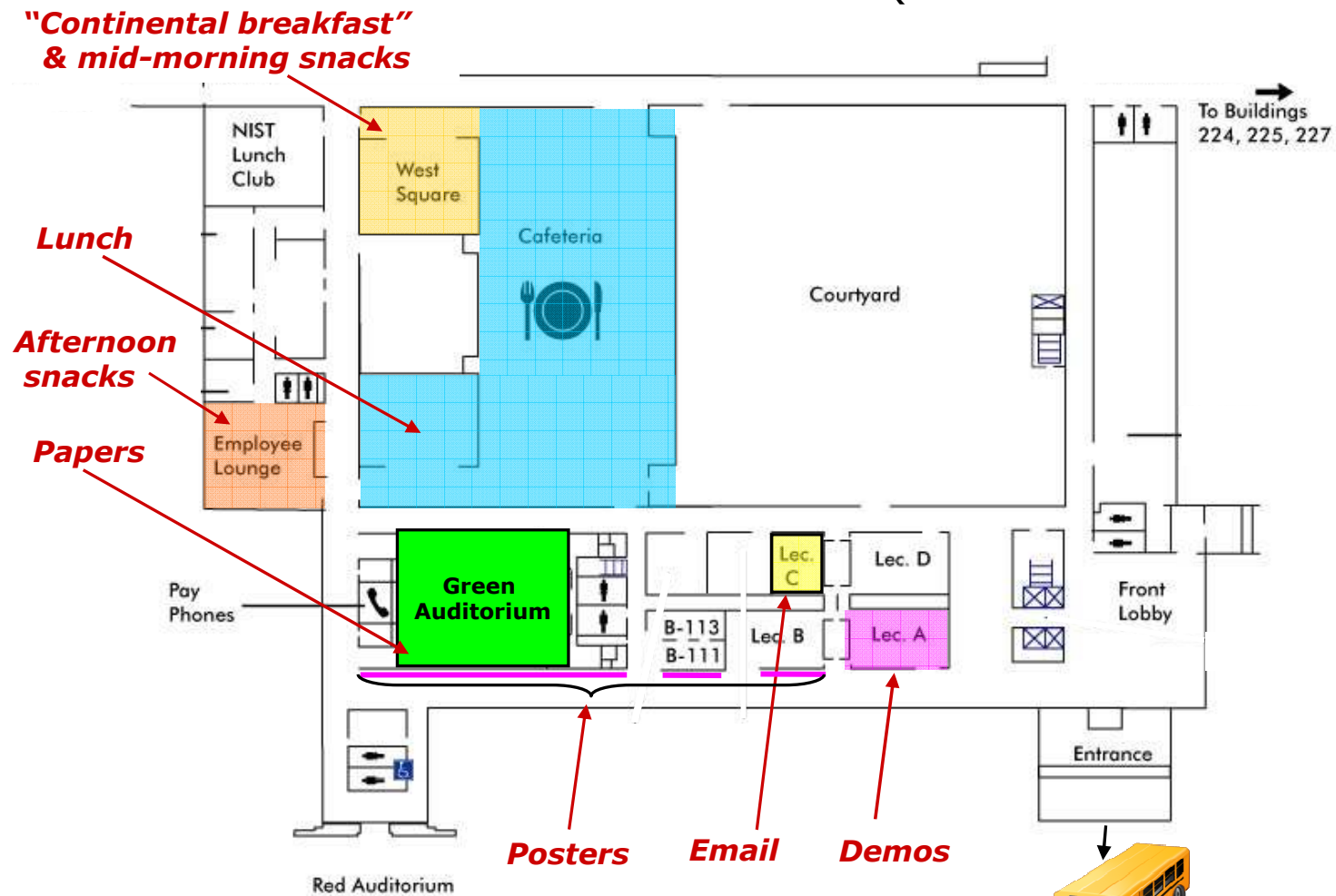
Agenda: Day 2

Tuesday

- High-level feature extraction
- Airport surveillance event detection
- Lunch
- Airport surveillance event detection (conclusion)
- TRECVID planning
 - Final year of Sound & Vision data
 - Changes to feature and search tasks?
 - BBC mobisodes?
 - Event detection in surveillance, continued?
 - Future of copy detection task
 - Other items?

Map: NIST Admin. Building, 1st Floor

(included in the notebook)



Reminders

- ❑ If you are driving to NIST rather than taking the NIST bus, you don't need to stop at the Visitor Center tomorrow.
 - ❑ Just show you conference badge and photo ID at the gate as you drive in.
 - ❑ Wear your badge at all times while at NIST
- ❑ At lunch ...
 - ❑ choose whatever you want (**except bottled or packaged foods**)
 - ❑ proceed to the cashier and present your ticket
- ❑ The workshop supper is close by at Growlers. This is a casual restaurant.
 - ❑ One ticket is included with your registration
 - ❑ You can buy additional tickets at the registration desk
 - ❑ If you don't plan to attend, please turn in your ticket at the registration desk so someone else can attend.
- ❑ If you are giving a talk, please have your computer connected or presentation loaded before the session begins.
- ❑ Poster supplies are available at the registration desk
- ❑ Wireless access info is in your badge holder. Do not share your password.