

TREC Video Retrieval Evaluation

TRECVID 2016

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	Gareth Jones (Dublin City University)
Jonathan Fiscus**	Benoit Huet (EURECOM)
David Joy**	Marc Ritter (Technische Universität Chemnitz)
Martial Michel**	Stephanie Strassel+
Andrew Delgado**	Xuansong Li+ et al

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Information Access Division
Information Technology Laboratory
NIST

+ Linguistic Data Consortium

Dakota Consulting, Inc
Silver Spring, MD

What is TRECVID?

Workshop series (2001 – present) → <http://trecvid.nist.gov>

to promote research/progress in content-based video analysis/exploitation

Foundation for large-scale laboratory testing

Forum for the

- ✓ exchange of research ideas
- ✓ discussion of approaches – what works, what doesn't, and why.

Focus: content-based approaches

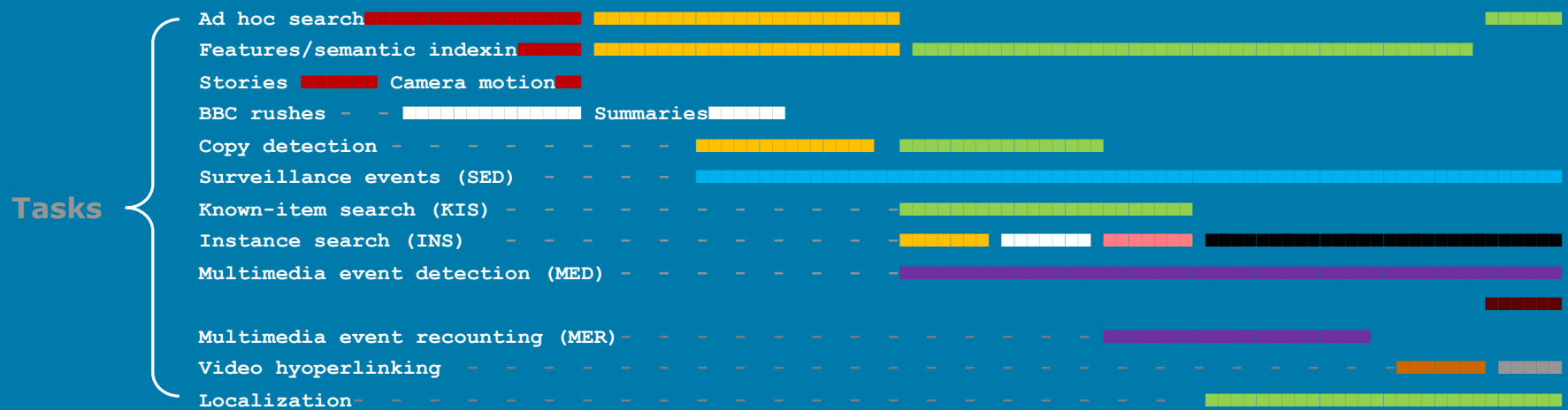
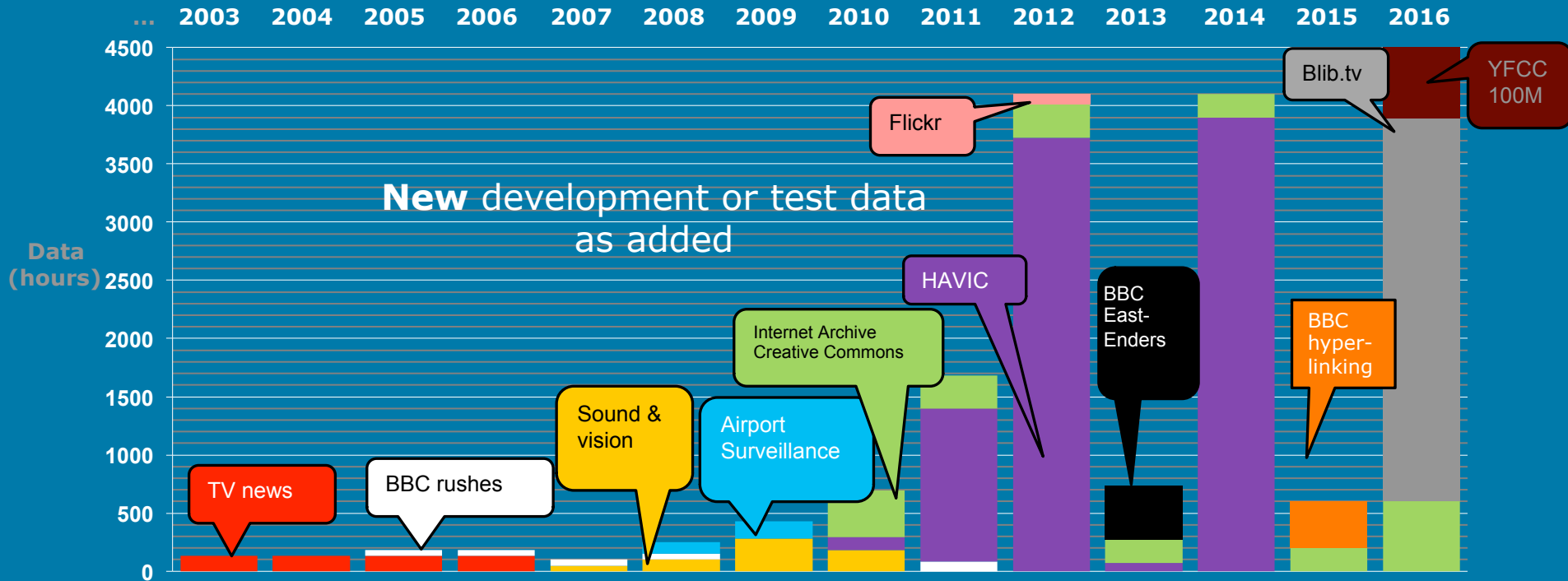
- ✓ search / detection / summarization / segmentation / ...

Aims for realistic system tasks and test collections

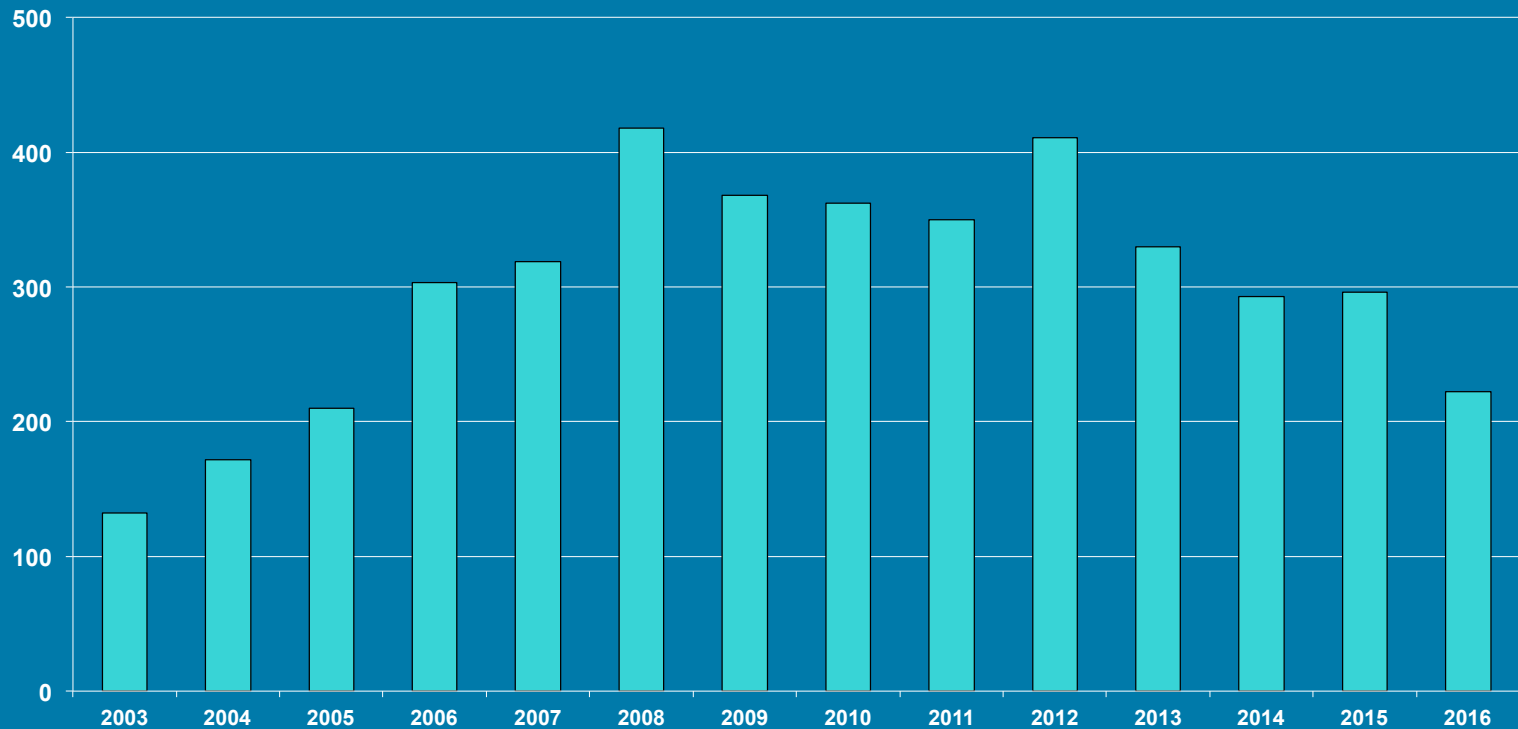
- ✓ unfiltered data
- ✓ focus on relatively high-level functionality (e.g. interactive search)
- ✓ measurement against human abilities

Provides data, tasks, and uniform, appropriate scoring procedures

TRECVID's Evolution



Notebook author count by years



TRECVID 2016 Tasks and Data

<p>Internet Archive – Creative Commons (IACC)</p> <p>600 h test data, video, title, keywords, description</p> <p>~1200 hours dev video, metadata</p>	<p>BBC EastEnders</p> <p>464 h divided into 471527 shots</p>	<p>Blib.tv Video Hyperlink</p> <p>c. 3288 h Blib.tv data</p>	<p>Airport surveillance</p> <p>Subset of 10 h test video + 2 h of group dynamic subset</p> <p>100 h dev video</p>	<p>HAVIC - Internet multimedia</p> <p>3713 h, test video 2116 h, dev video ----- -- YFCC100M</p> <p>1025 h, test video</p>
<p>Ad hoc video search 30 textual only queries evaluated)</p>	<p>Instance search (30 ad hoc image & video test queries)</p>	<p>Video Hyperlinking (94 test anchors)</p>	<p>Surveillance event Detection (7 known test events + 3 group dynamic events)</p>	<p>Multimedia event detection (20 pre-specified &/or 10 ad hoc complex test events)</p>
<p>Localization (10 new known test concepts)</p>				

New in TRECVID 2016

- Video to Text pilot task (VTT)
 - Challenges systems to match videos to their textual descriptions.
 - Challenges systems to generate automatic textual descriptions.
 - ~2000 Twitter Vine videos
- New live interactive evaluation for ad-hoc search queries at VBS 2017
- New INS query type: person + location

TV2016 Finishers : 39 teams out of 76

PicSOM	---	---	LOC	---	---	AVS	Aalto U.
ABZOOBA	---	---	---	---	---	AVS	Abzooba Inc. India
fork	---	---	---	MED	---	---	Arizona state u.
INF	---	***	---	***	***	***	Beijing U. of Posts and Telecommunications; Autonoma de Madrid; Shandong U.; Xian Jiao Tong U.
BIT_MCIS	---	---	---	***	SED	---	Beijing Institute of Technology, Media Computing and Intelligent System Lab
SamHMS	---	---	LOC	MED	---	AVS	Beijing Samsung Telecom R&D Center
BCTS	---	---	LOC	---	SED	---	Brain Corporation Technical Services
CCNY	---	---	---	---	---	AVS	City College, City U. of New York; Graduate Center, City U. of New York; NVIDIA Research.
VIREO	***	LNK	---	***	---	***	City U. of Hong Kong
IRISA	---	***	---	---	---	---	CNRS,IRISA,INSA, Universite de Rennes 1
CVARL_WU	INS	---	---	---	---	---	Computing Center of Computer School at Wuhan U.
ADVICE	INS	---	LOC	MED	SED	AVS	Department of Computer Engineering, Baskent U.
UEC	---	---	LOC	---	---	***	Dept. of Informatics, U. of Electro-Communications
U_TK	***	---	---	---	---	---	Dept. of Information Science & Intelligent systems, U. of Tokushima
UQMG	***	---	---	---	---	---	U. of Queensland - DKE Group of ITEE
insightdca	***	---	---	---	SED	AVS	Dublin City U.; Polytechnic U. of Catalonia
Etter	---	---	---	***	---	---	Etter Solutions
EURECOM	---	***	---	---	---	***	EURECOM
FIU_UM	---	---	---	---	---	***	Florida International U.; U. of Miami
FXPAL	---	***	---	---	---	---	FX PALO ALTO LABORATORY, INC
HEU008	---	---	---	MED	---	---	Harbin Engineering U.
HRI	---	---	---	---	***	---	Hikvision Research Institute
hulustar	---	---	LOC	MED	---	---	HULU LLC
NP	---	---	---	---	SED	---	IIT Hyderabad
ITI_CERTH	***	---	---	***	***	***	Information Technologies Institute, Centre for Research and Technology Hellas
INRIA_STARS	---	---	LOC	MED	---	---	INRIA
IRIM	***	---	---	---	---	AVS	EURECOM; LABRI; LIG; LIP6; LISTIC

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TAM	---	---	---	---	---	AVS	Intel
Ravi	INS	---	---	MED	---	AVS	JNTUK
JRS	***	---	---	---	---	AVS	JOANNEUM RESEARCH
ITEC_UNIKLU	---	---	---	---	---	***	Klagenfurt U.
kobe_nict_siegen	---	---	---	---	---	***	Kobe U.; National Institute of Information and Communications Technology; U. of Siegen
KoreaUnivISPL	---	---	---	***	---	---	Korea U. - Intelligent Signal Processing Laboratory (ISPL)
LIG	---	---	LOC	---	---	AVS	Laboratoire d'Informatique de Grenoble
PKU_MI	INS	---	---	***	---	---	Peking U.; Rutgers U.
MetuMedia	INS	---	LOC	---	---	---	Middle East Technical U. Department of Electrical/Electronics Engineering
Mitsubishi_Electric	INS	---	---	---	SED	---	Mitsubishi Electric Corporation
BUPT_MCPRL	***	---	LOC	***	***	AVS	Multimedia Communication and Pattern Recognition Labs, Beijing U. of Posts and Telecommunications
MI_TJU	---	---	---	MED	SED	---	Multimedia Institute, Tianjin U.
NII_Hitachi UIT	***	LNK	***	***	***	***	National Institute of Informatics (NII); Hitachi, Ltd; U. of Information Technology, VNU-HCM, Vietnam (HCM-UIT)
nus_action	---	---	---	MED	---	---	National U. of Singapore
WHU_NERCMS	***	---	---	---	---	---	National Engineering Research Center for Multimedia Software, School of Computer, Wuhan U.
NEU_MITLL	---	---	---	MED	---	---	Northeastern U. and MIT Lincoln Laboratory.
nttfudan	---	---	---	***	SED	---	NTT Media Intelligence Laboratories; Fudan U.
NTT	INS	---	---	---	---	---	NTT Communication Science Laboratories; NTT Media Intelligence Laboratories
ORAND	INS	LNK	---	MED	---	---	ORAND S.A. Chile
PKU_ICST	***	LNK	LOC	MED	SED	AVS	Peking U.
VideoVision	---	LNK	---	---	---	---	PES U.
EURECOM_POLITO	---	***	---	---	---	---	Politecnico di Torino Eurecom
QUPROR	---	---	---	---	SED	---	Private Research
QUT	INS	---	LOC	MED	SED	AVS	Qatar U.
REGIMVID	---	LNK	LOC	---	---	AVS	REGIM, Research Group on Intelligent Machines National School of Engineers, U. of Sfax, Tunisia
WARD	---	---	---	---	***	---	School of Information Technology and Electrical Engineering, The U. of Queensland

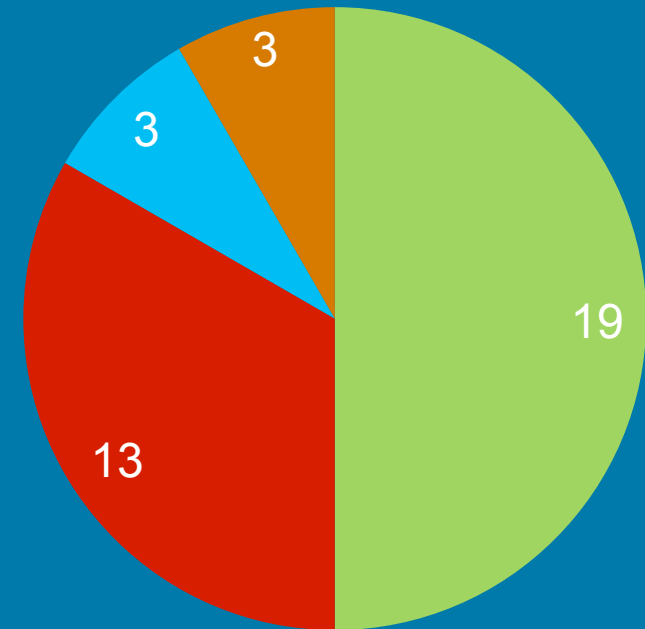
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saricas	INS	---	---	MED	---	---	Shanghai Advanced Research Institute, Chinese Academy of Sciences
sjtu_icl	---	---	---	---	SED	---	Shanghai JiaoTong U.
SIAT_MMLAB	***	---	---	---	---	---	Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences
zy_scu	---	---	---	---	SED	---	Sichuan U.
SeuGraph	---	---	---	---	---	***	Southeast U. Computer Graphics Lab
TRIMPS_SARI	***	---	---	---	---	---	The Third Research Institute of Ministry of public security; Shanghai Advanced Research Institute, Chinese Academy of Sciences
Trimps	INS	LNK	LOC	MED	SED	AVS	The Third Research Institute of the Ministry of Public Security, P.R. China
TokyoTech	---	---	---	***	***	---	AVS Tokyo Institute of Technology
HAWKEYE	INS	LNK	LOC	MED	SED	AVS	Tsinghua U.
THSS_IMMG	INS	---	---	---	---	---	Tsinghua U. School of Software
TUC	***	---	---	---	---	---	TU Chemnitz - Junior Professorship Media Computing - Chair Media Informatics
TUZ	INS	LNK	LOC	MED	---	---	TUBITAK UZAY
BMC_UESTC	INS	---	---	---	---	---	U. of Electronic Science and Technology of China
IMOTION	---	---	---	---	---	***	U. of Basel, Switzerland U. of Mons, Belgium Koc U.
MediaMill	INS	---	LOC	---	---	***	U. of Amsterdam
Sheffield_UETLahore	INS	---	---	---	---	---	U. of Sheffield, UK U. of Engineering & Tech., Lahore
trento_tokyo_univ	---	---	---	MED	---	---	U. of Trento
UniKent	---	---	---	---	SED	---	U. of Kent
UTS_CMU_D2DCRC	---	---	---	***	---	---	U. of Technology, Sydney D2DCRC
vitriivr	---	---	---	---	---	---	*** U. of Basel
Waseda	---	LNK	LOC	MED	---	---	*** Waseda U.
IIP_WHU	---	LNK	---	---	---	---	*** Whuhan U.
zjgsucvg	---	---	---	MED	---	AVS	Zhejiang Gongshang U.,China

TV2016 Finishers

Unique finishing teams

Groups Finished	Task code	Task name
8	SED	Surveillance event detection
13	AVS	Ad-hoc Video Search
13	INS	Instance search
12	MED	Multimedia event detection
5	LNK	Video hyperlinking
3	LOC	Localization
7	VTT	Pilot task (Video_to_Text)



■ Asia ■ Europe
■ North America ■ Australia

Support

The running of TRECVID 2016 has been funded directly by:

- National Institute of Standards and Technology (NIST)
- Intelligence Advanced Research Projects Activity (IARPA)

TRECVID is only possible because of the additional efforts of many individuals and groups around the world.

Additional resources and contributions

- Georges Quénot
 - shared coordination of the semantic indexing task
 - provided the master shot reference for the IACC.3 video
 - arranged for ASR for IACC.3 video
- Koichi Shinoda of the TokyoTechCanon team agreed to host a copy of the IACC.2 data
- The LIMSI Spoken Language Processing Group and Vocapia Research provided ASR for the IACC.2-3 videos and HAVIC data
- Noel O'Connor and Kevin McGuinness at Dublin City University along with Robin Aly at the University of Twente worked with NIST and Andy O'Dwyer plus William Hayes at the BBC to make the BBC EastEnders video available for use in TRECVID
- Roeland Ordelman and Robin Aly (Univ. of Twente, NL), Maria Eskevich (Radboud Univ.) , Benoit Huet (Eurecom, Fr), Gareth Jones and David Racca (DCU, Ir) , Marth Larson (Radboud;DUT) Coordinated the Video hyperlinking task
- Marc Ritter group (TUC) for supporting the video-to-text pilot annotations

Agenda: Day 1

- Arranged by task
- Time for discussion of approaches & evaluation
- Monday
 - Intros, thanks, etc.
 - Ad hoc video search
 - Lunch
 - Instance search
 - Workshop dinner

Agenda: Day 2

- Tuesday
 - Multimedia event detection
 - Surveillance event detection
 - Lunch
 - Localization
 - Poster/demo boaster
 - Posters and demos with refreshments

Agenda: Day 3

- Wednesday
 - Video hyperlinking
 - Video-to-text showcase/pilot
 - TRECVID planning
 - Workshop close

Miscellany

- If you have registered for the workshop dinner and will not be using your ticket, please turn it in at the registration desk during the break this morning or at lunch so someone else who wants to attend can use it.
- Morning break: West Square
- Afternoon breaks: Red Auditorium Foyer
- Non-catering option gets to use the regular cafeteria for lunch
- Power strips in the back, sockets near the couches.
- Wifi: NIST-Guest
- The online workshop proceeding can be found at :
 - <http://www-nlpir.nist.gov/projects/tv2016/tv16.workshop.notebook/>