

TREC Video Retrieval Evaluation

TRECVID 2018

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Dakota Consulting, Inc

TRECVID 2018

What is TRECVID ?

- Workshop series (2001 – present) → <http://trecvid.nist.gov>
- Started as a track in the TREC (Text REtrieval Conference) evaluation benchmark.
- Became an independent evaluation benchmark since 2003.
- Focus: **content-based** video analysis, retrieval, detection, etc
- Provides data, tasks, and uniform, appropriate scoring procedures
- Aims for realistic system tasks and test collections:
 - unfiltered data
 - focus on relatively high-level functionality (e.g. interactive search)
 - measurement against human abilities
- Forum for the
 - exchange of research ideas and for
 - the discussion of research methodology – what works, what doesn't , and why

TRECVID Datasets overview

US TV news (^03/^04)



International TV news (^05/^06)



Dutch TV infotainment (^07/^08/^09)



Security cameras (since 2008)



Web video (since 2010)

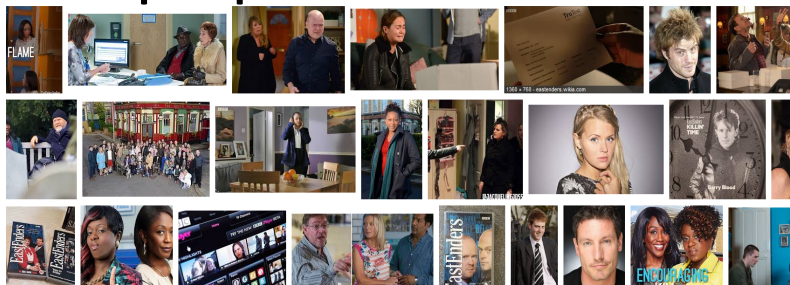


HAVIC

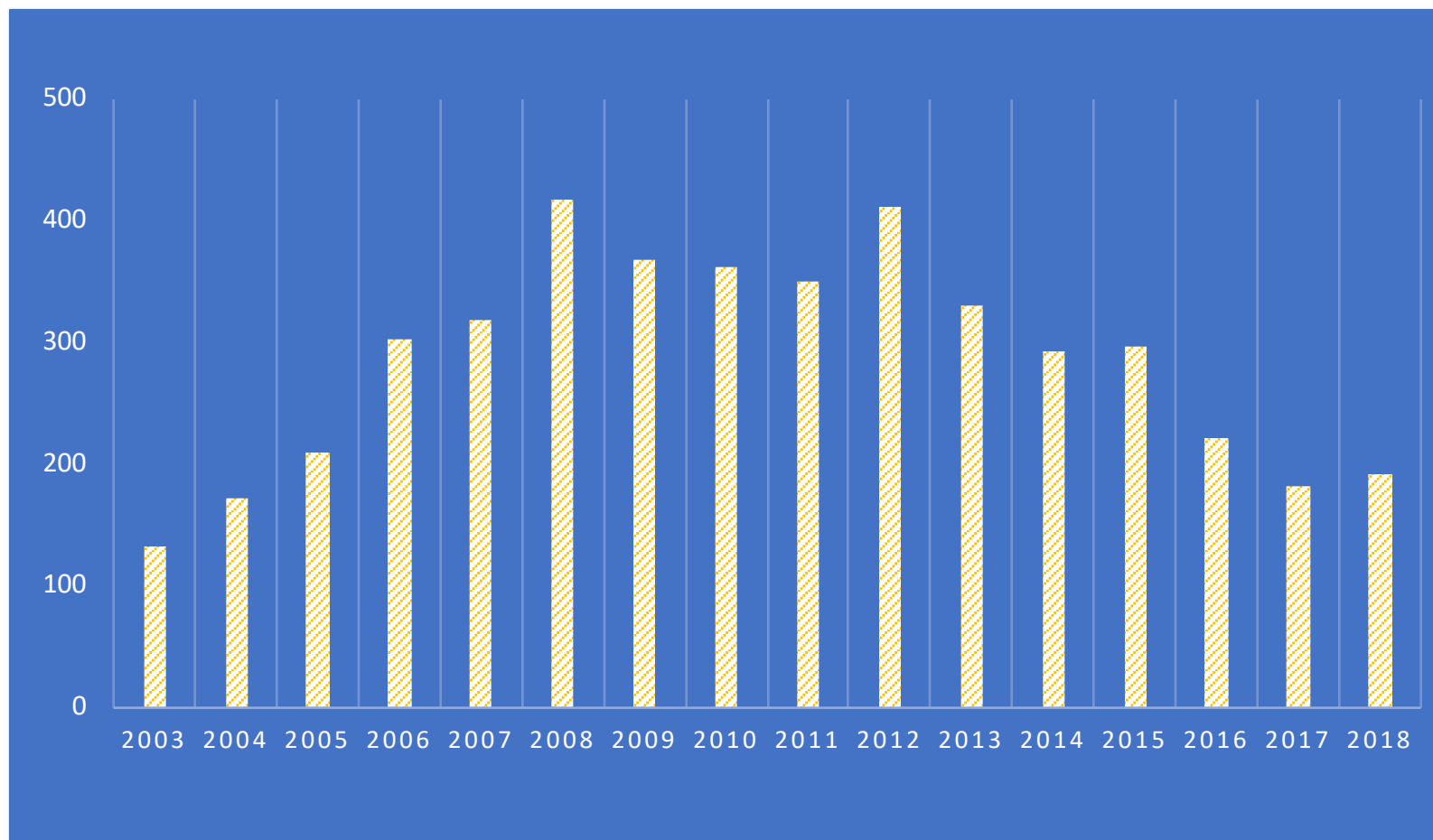


Social media (since 2016)

Soap opera (since 2013)

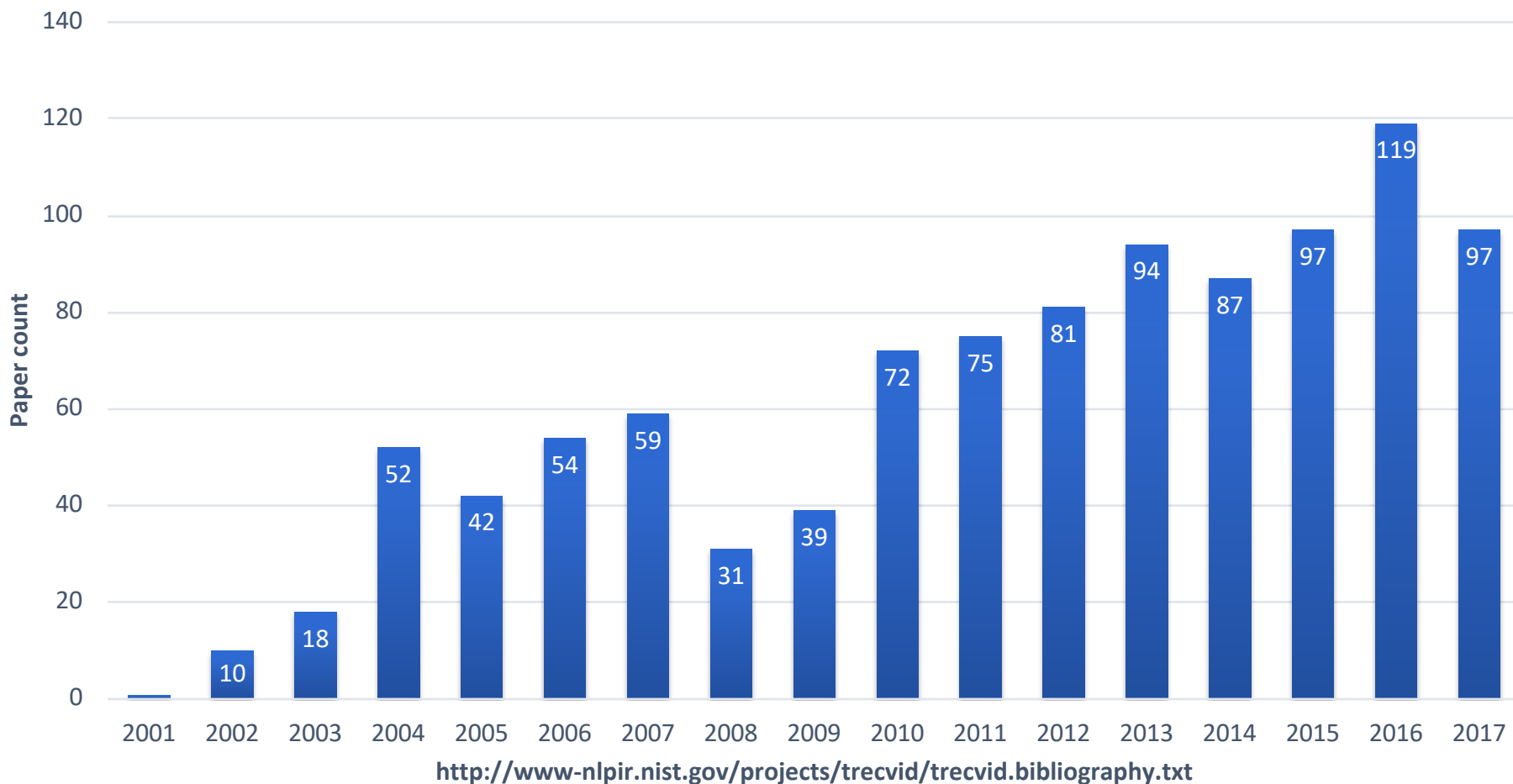


Notebook unique author count by years



TRECVID Bibliography

Partial bibliography of peer-reviewed journal and conference papers (ACM Digital Library and IEEE Explorer) based on TRECVID resources



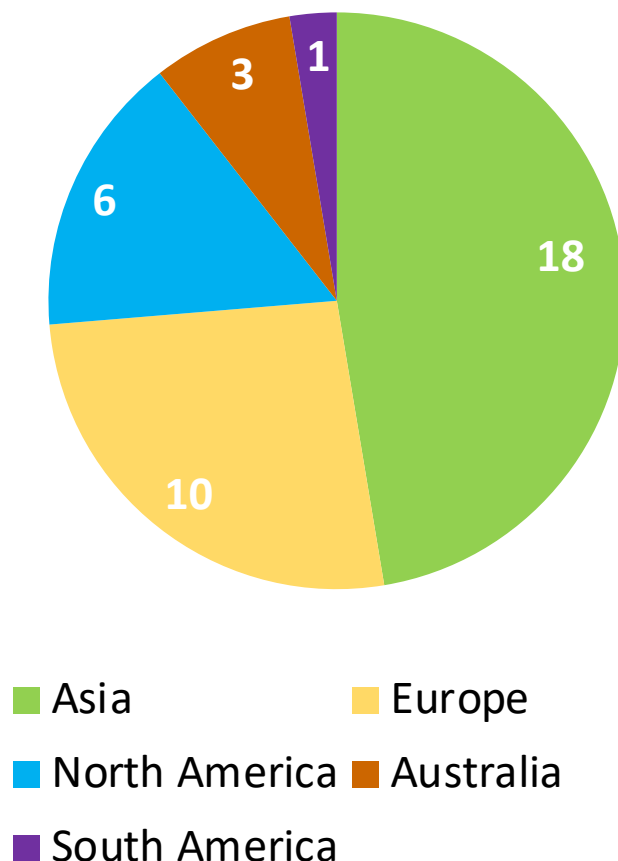
TRECVID 2018 Tasks and Data

Ad-hoc Video Search	Instance Search	Video to Text Description	Activities in Extended Videos	Social-Media Video Storytelling Linking	Streaming Multimedia Knowledge base population
<p><i>Internet Archive (IACC.3)</i></p> <p>600 h test video data divided into 335,944 shots, title, keywords, description</p> <p>~1200 hours dev video, metadata</p> <p>30 ad-hoc textual queries evaluated</p>	<p><i>BBC Eastenders</i></p> <p>464 h divided into 471,527 shots, transcripts</p> <p>1 episode dev video and any external web resources</p> <p>30 ad hoc image & video</p> <p>Person + Location Queries evaluated</p>	<p><i>Twitter Vines</i></p> <p>1903 Vine test videos URL</p> <p>~3800 Vine dev URLs & corresponding descriptions</p> <p>Match video with the description & Generate automatic video description</p>	<p><i>VIRAT</i></p> <p>7 h video surveillance dataset</p> <p>Detection and Localization of activities and objects</p> <p>19 activities evaluated</p>	<p><i>Twitter image/video</i></p> <p>~96k images and 13k videos dev data from 2 social events</p> <p>~93k images and 14k videos test data from 2 social events</p> <p>Evaluated 30 stories from 2 events</p>	<p><i>Web Documents</i></p> <p>*NEW PILOT* Jointly with TAC</p> <p>A corpus consists of webpages, videos, images, pdf and audio files + provided ontology</p> <p>~10k documents and 6 topics for training and 10k and 3 topics for testing</p>

TV2018 Finishers

Groups Finished	Task code	Task name
17	ActEV	Activities in Extended Video
13	AVS	Ad-hoc Video Search
8	INS	Instance search
12	VTT	Video to Text Description
2	LNK	Social-Media Video Storytelling Linking
6 (jointly run with TAC)	SMKBP	Streaming Multimedia Knowledge base population

Unique finishing teams



TV2018 Finishers : 37 teams out of 63

---	---	VTT	---	---	---	PicSOM	Aalto University
---	LNK	---	---	---	---	ADAPT	Adapt Centre School of Computer Science and Statistics of TCD
INS	---	---	---	ActEV	---	BUPT_MCPRL	Beijing University of Posts and Telecommunications
---	---	VTT	***	ActEV	AVS	INF	Carnegie Mellon University; Shandong Normal University; Renmin University; Beijing University of Technology
---	---	VTT	---	---	---	UTS_CETC_D2DCRC	Centre for Artificial Intelligence, University of Technology Sydney
---	***	VTT	---	---	***	EURECOM	EURECOM
---	---	---	***	---	AVS	FIU_UM	Florida International University University of Miami
---	---	---	---	---	AVS	kobe_kindai	Graduate School of System Informatics, Kobe University; Department of Informatics, Kindai University
INS	---	***	---	ActEV	AVS	ITI_CERTH	Information Technologies Institute / Centre for Research and Technology Hellas; Queen Mary University of London
---	---	---	---	ActEV	---	JHUVAD	Johns Hopkins University Amazon, Inc.
---	---	VTT	---	---	---	kslab	Knowledge Systems Laboratory, Nagaoka University of Technology
---	---	VTT	---	---	---	KU_ISPL	Korea University
INS	---	---	---	---	---	IRIM	CEA-LIST; LABRI; LIG; LIMSI; LISTIC
INS	---	---	---	---	---	PLUMCOT	LIMSI KIT
---	---	---	---	---	AVS	NECTEC	National Electronics and Computer Technology Center NECTEC
INS	***	***	***	***	AVS	NII_Hitachi_UIT	National Institute of Informatics, Japan; Hitachi, Ltd., Japan; University of Information Technology, VNU-HCMC, Vietnam
---	---	---	***	---	AVS	VIREO_NExT	National University of Singapore; City University of Hong Kong
INS	---	---	---	---	---	WHU_NERCMS	National Engineering Research Center for Multimedia Software, Wuhan University

--- : Didn't plan to participate

*** : Planned to submit but didn't

TV2018 Finishers : 37 teams out of 63

***	---	VTT	---	---	***	ORAND	ORAND S.A. Chile
INS	***	***	***	***	***	PKU_ICST	Peking University
---	---	VTT	***	---	---	NTU_ROSE	Rapid-Rich Object Search (ROSE) Lab, Nanyang Technological University
***	---	VTT	---	---	AVS	RUCMM	Renmin University of China
---	---	---	---	---	AVS	NTU_ROSE_AVS	ROSE LAB, NANYANG TECHNOLOGICAL UNIVERSITY
---	***	VTT	---	***	---	MMsys_CCMIP	Shandong Normal University; Shandong University
---	---	---	---	---	AVS	SIRET	SIRET Department of Software Engineering, Faculty of Mathematics and Physics, Charles University
---	---	---	---	ActEV	---	SeuGraph	Southeast University Computer Graphics Lab
---	---	---	***	ActEV	---	VANT	Tokyo Institute of Technology, National Institute of Advanced Industrial Science and Technology, Nanyang Technological University
---	---	---	---	ActEV	---	crcv	UCF
---	LNK	---	---	---	---	NOVASearch	Universidade NOVA Lisboa
INS	---	---	---	ActEV	---	HSMW_TUC	University of Applied Sciences Mittweida; Chemnitz University of Technology
---	---	***	---	ActEV	AVS	MediaMill	University of Amsterdam
---	***	VTT	---	---	---	UCR_VCG	University of California, Riverside
***	---	---	---	ActEV	---	usfBULLS	University of South Florida, Tampa
---	---	---	---	ActEV	---	UTS-CETC	University of Technology, Sydney
---	---	---	---	---	AVS	UTS_ISA	University of Technology Sydney
---	---	VTT	---	---	---	UPCer	UPC
---	---	***	***	---	AVS	Waseda_Meisei	Waseda University; Meisei University

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---	---	***	---	---	---	AreteEast	Arete Associates
---	---	---	---	***	---	Mpl.bh	Beihang university
---	---	***	---	---	---	CMU_LSMA	Carnegie Mello University
***	---	***	---	---	---	CEALIST	Commissariat à l'énergie Atomique et aux énergies Alternatives Laboratoire d'Integration des Systemes et des Technologies
---	---	---	---	---	***	SogangDMV	Dept. of Computer Science and Engineering, Sogang University
***	---	---	---	---	---	U_TK	Dept. of Information Science & Intelligent Systems, The University of Tokushima
---	---	***	---	---	---	DCU.Insight	Dublin City University
***	---	---	---	---	---	teamfluent	Fluent.ai Inc.
***	***	***	***	***	***	GE	Graphic Era University
---	---	***	---	---	---	UDLT	Tianjin University
---	***	---	---	---	---	SC4wTREC	IBM Watson, IBM Ireland
---	---	---	---	---	***	ITEC_UNIKLU	Institute of Information Technology, Klagenfurt University
---	---	---	---	---	***	D_A777	Malla Reddy College of Engineering Technology, Department of Electronics and communication Engineering
---	---	---	---	***	---	TJUSMG	Multimedia information processing center
***	***	***	***	***	***	ZJU_612	net media lab of ZJU
---	---	---	---	***	---	nVIDIA_CamSol	nVIDIA
---	***	---	---	---	---	EURECOM_POLITO	Politecnico di Torino and Eurecom
---	---	***	---	---	---	RUC_CMU	Renmin University of China; Carnegie Mellon University
---	---	---	---	---	***	sbu	Stony Brook University
***	---	***	***	***	***	MDA	Department of electronic engineering, Tsinghua University
---	***	***	---	---	---	tju_nus	Tianjin University, China SeSaMe Research Centre, National University of Singapore, Singapore
---	***	---	---	---	---	IRISA	University de Rennes 1
---	---	---	---	***	---	IRIMAS_UHA_	CrowdSurv University of Haute-Alsace
---	---	---	***	---	---	REGIMVID	University of sfax
---	---	---	---	---	***	UJCV	University of Johannesburg
---	---	---	---	---	***	vitivr	University of Basel, Switzerland

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Support

The running of TRECVID 2018 has been funded directly by:

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

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

Additional resources and contributions

- Georges Quénot
 - 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 Rob Cooper at the BBC to make the BBC EastEnders video available for use in TRECVID

- Joao Mgalhaes, David Semedo, and Saverio Blasi coordinated the Social-Media Video Storytelling Linking task

- Alan Smeaton and Yvette Graham (DCU, Ir) for supporting the video-to-text Direct Assessment annotations

Agenda: Day 1

- Arranged by task
- Time for discussion of approaches & evaluation
- Tuesday
 - Intros, thanks, etc.
 - Ad hoc Video Search (AVS) task
 - Lunch
 - Streaming Multimedia Knowledge Base Population (SMKBP) task
 - Instance Search (INS) task
 - Workshop dinner

Agenda: Day 2

- Wednesday
 - Activities in Extended Video
 - Lunch
 - Social-Media Video Storytelling Linking (LNK) task
 - Posters and demos with refreshments

Agenda: Day 3

- Thursday
 - Video to Text Description (VTT) task
 - 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.
- Breakfast, morning and afternoon breaks: **Heritage Room**
- Wifi: NIST-Guest
- The online workshop proceeding can be found at :
<http://www-nlpir.nist.gov/projects/tv2018/tv18.workshop.notebook/>