TREC Video Retrieval Evaluation TRECVID 2020

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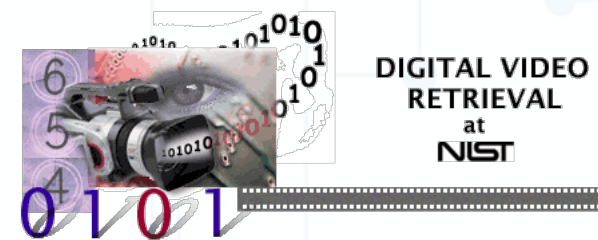
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[8]Laboratoire d'Informatique de Grenoble, France

[9]MIT Lincoln Laboratory

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 using :
  ➢ Unfiltered data
  ➢ Focus on relatively high-level functionality (e.g. interactive search)
  ➢ Measurement against human abilities
➢ Forum for the :
  ➢ Exchange of research ideas
  ➢ The discussion of research methodology – what works, what doesn't , and why

Datasets Overview

US TV news (`03/`04)

CNN abc

International TV news (`05/`06)

LBC

CCTV NBC

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

BEELD EN GELUID

Web video (since 2010)

HAVIC

INTERNET ARCHIVE

Soap opera (since 2013)

EastEnders BBC
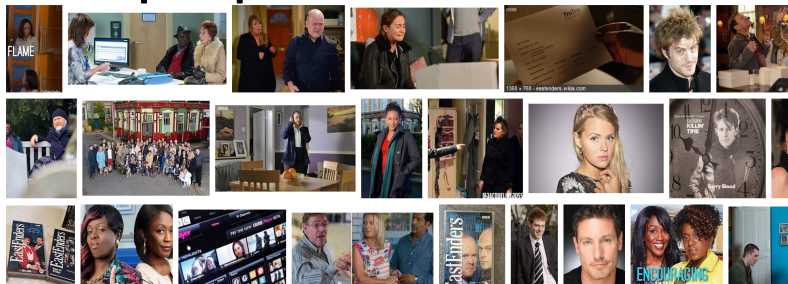
Security cameras (since 2008)

Social media (since 2016)

Vine

Video Sharing (since 2019)

vimeo

Civil Air Patrol (since 2020)

Annual Workshop Authors

Bibliography

http://www-nlpir.nist.gov/projects/trecvid/trecvid.bibliography.txt
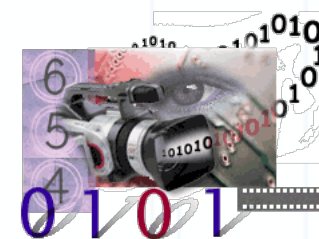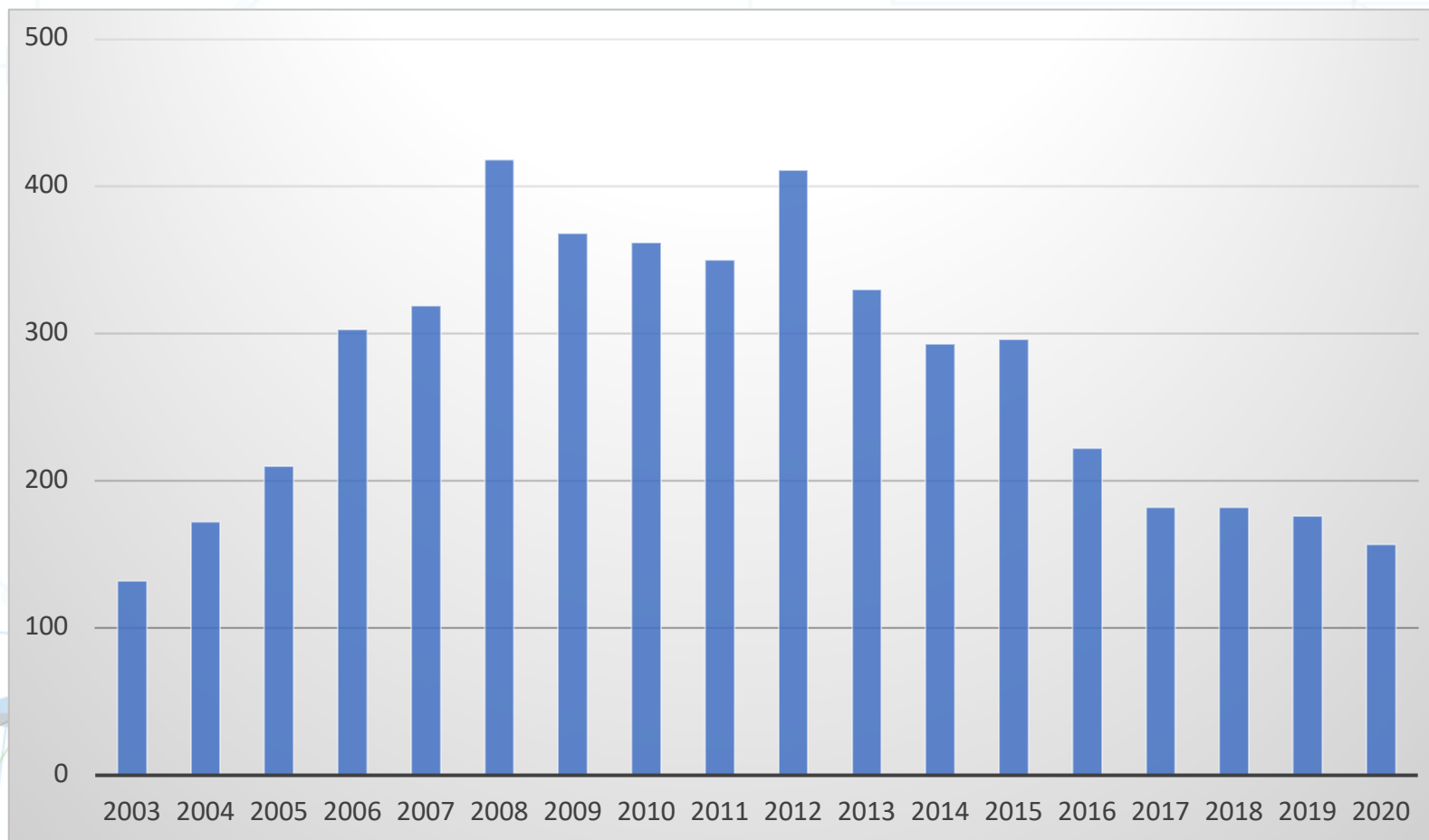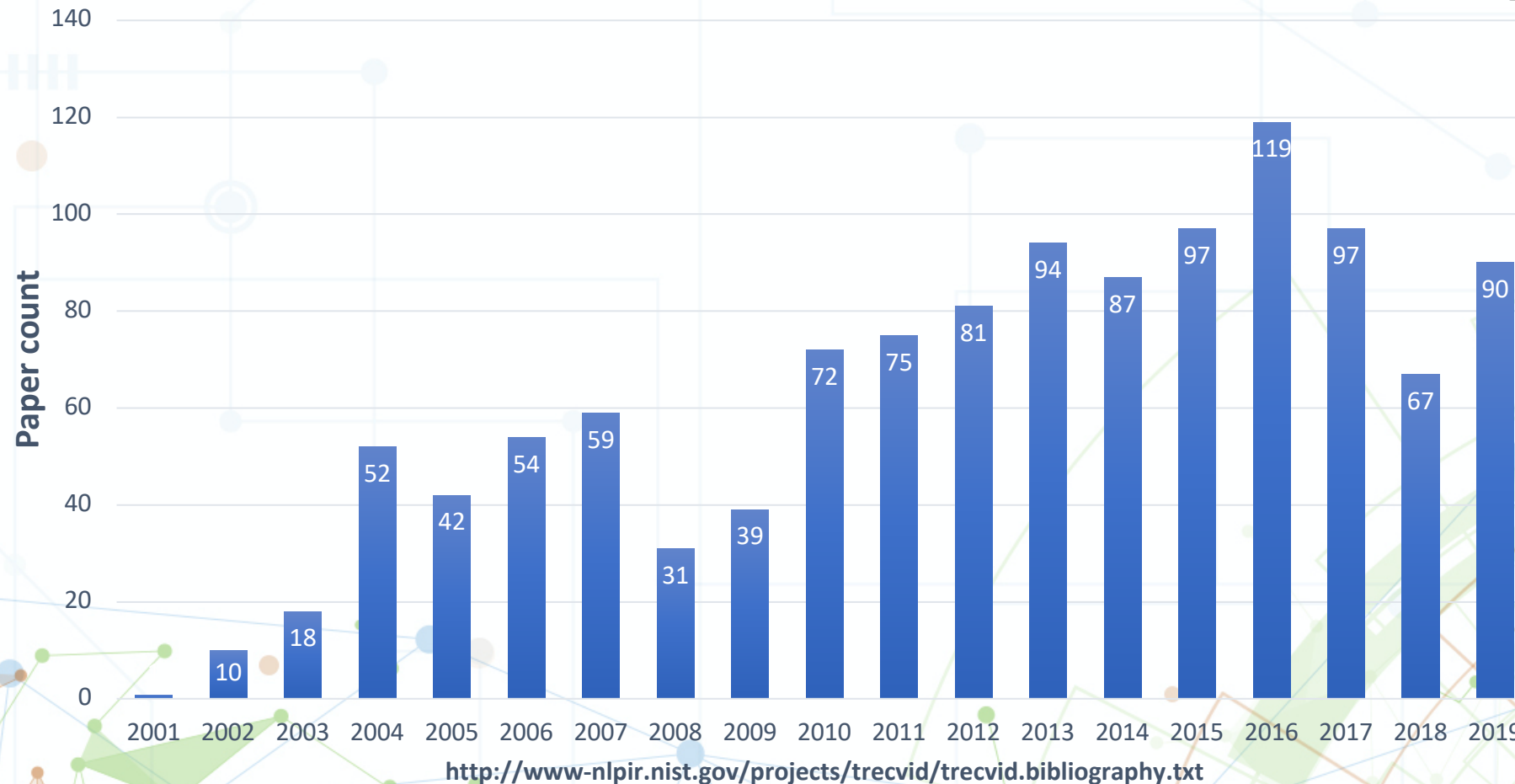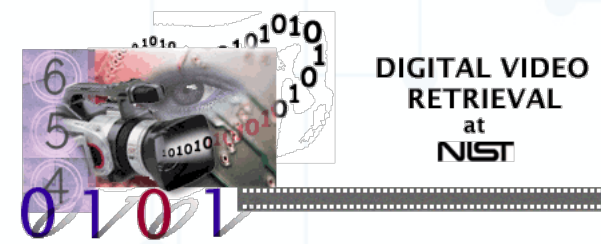
TRECVID 2020 Tasks & Data

NIST

| Ad-hoc Video Search (AVS)	Instance Search (INS)	Video to Text (VTT)	Video Summarization (VSUM)	Activities in Extended Videos (ACTEV)	Disaster Scene Description & Indexing (DSDI)
Vimeo CC (V3C1) 1000 h testing data, ~1 M shots, title, keywords, description ~2000 h dev data 20 *new* textual queries 20 progress queries [fixed 2019 – 2021]	**BBC Eastenders** *464 h testing data 471,527 shots, transcripts* *1 episode dev video + external web resources* *20 *new* image/video Person + Action queries* *20 progress queries [fixed 2019-2021]*	**Vimeo CC (V3C2)** 1700 Short Vimeo testing video clips 9185 dev videos and captions from Twitter Vine and Flickr Two tasks: - Match video with description - Generate automatic video description	**BBC Eastenders** New pilot task Summarize important character events during 8 – 12 weeks of episodes. image queries of 3 surprise characters	**VIRAT** *10 h multi-camera video surveillance dataset* *Detection and Localization of activities* *35 activities evaluated*	**LADI** New pilot task 20,000+ dev images from airborne low altitude disaster events ~5 h testing data from natural disaster event 32 known features identified by search & rescue personnel

TRECVID 2020 Finishers (29 / 52)

Groups Finished	Task Code	Task Name
9	AVS	Ad-hoc Video Search
7	ACTEV	Activities in Extended Video
2	VSUM	Video Summarization
6	VTT	Video to Text Description
5	INS	Instance Search
9	DSDI	Disaster Scene Description & Indexing

Unique finishing teams

- 🟩 Asia
- 🟨 Europe
- 🟦 North America
- 🟧 Australia
- 🟪 South America
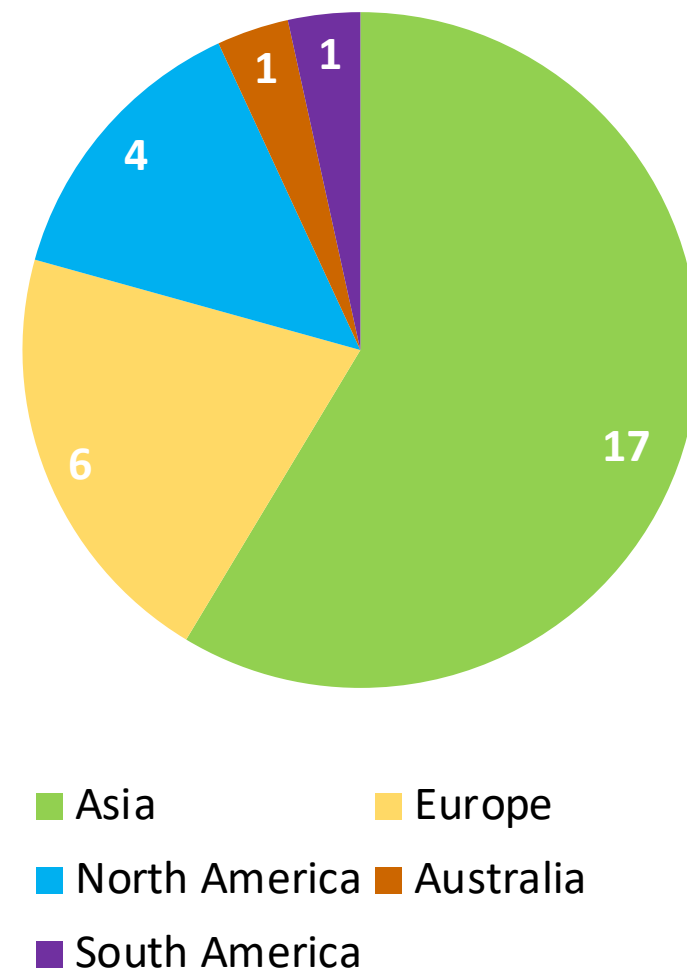
TRECVID 2020 Finishers (29 / 52)

Team	Organization
VCL	Information Technologies Institute (ITI) Centre of Research and Technology Hellas (CERTH)
PicSOM	Aalto University
BUPT_MCPRL	Beijing University of Posts and Telecommunications
VIdeoREtrievalGrOup	City University of Hong Kong
IMFD_IMPRESEE	University of Chile; Millennium Institute of Data Foundation (IMFD), Chile; Impresee Inc, Chile
MeMAD	Eurecom and Aalto for MeMAD
FIU_UM	Florida International University ; University of Miami
kindai_ogu	Kindai University; Osaka Gakuin University
VAS	Hitachi, Ltd. R&D
DVA_Researchers	Indian Institute of Space Science and Technology (IIST); Development and Educational Communication Unit (DECU), Indian Space Research Organisation (ISRO)
ITI_CERTH	Information Technologies Institute, Centre for Research and Technology Hellas
KU_ISPL	Korea University
SHIELD	LINKS Foundation
KsLab_NUT	Nagaoka University of Technology
NIIICT	National Institute of Information and Communications Technology, and National Institute of Informatics (Japan)

TRECVID 2020 Finishers (29 / 52)

NIST

| Team	Organization
NII_UIT	National Institute of Informatics, Japan; University of Information Technology, VNU-HCMC, Vietnam
PKU_WICT	Peking University
RUC_AIM3	Renmin University of China
RUCMM	Renmin University of China
UEC	The University of Electro-Communications, Tokyo
TokyoTech_AIST	Tokyo Institute of Technology; National Institute of Advanced Industrial Science and Technology (AIST)
MMCUniAugsburg	University of Augsburg
UTSVideo	University of Technology Sydney
COVIS	UNT Dept. of Computer Science and Engineering ; UNT Dept. of Electrical Engineering
WasedaMeiseiSoftbank	Waseda University; Meisei University ; SoftBank Corporation
WHU_NERCMS	Wuhan University
ZY_BJLAB	XinHuaZhiYun Technology CO,. Ltd.
INF	Carnegie Mellon University
CRCV_UCF	University of Central Florida

NIST

Team	Organization
ATL	Alibaba group; ZheJiang University
Arete	Arete_Associates
SYMBEN	Athlone Institute of Technology, Ireland; Aligarh Muslim University, India; Lahore College for Women Univesity, Pakistan; Islamia University Bahawalpur, Pakistan
BDVIDEO	BAIDU
NDKS	Charotar University Of Science & Technology
Byte_Karma	CHARUSAT
UPC_VIT2020	China University of Petroleum (east China)
VCUB	CSE Dept, UB
drylwlsn_visual	drylwlsn_visual
IOSBVID_TV20	Fraunhofer IOSB Research Institute; Karlsruhe Institute of Technology
ark_20	Huawei Noah's Ark lab
aalekhn	Independent Researcher
usf_bulls	Institute for Artificial Intelligence (AI+X), University of South Florida
KNU.visual_lab	Kangwon national university

NIST

| Team	Organization
DAMILAB	NIT Warangal
PKUMI	Peking University
REGIM_Lab_VSUM	Research Groups in Intelligent Machines
AIT_SRI_2020	Software Research Institute Athlone IT
Sheffield_UETLahore	University of Sheffield
ustcmcc	University of Science and Technology of China
Aptitude	Universite de Mons
VSR	Visionary Systems and Research (VSR)
LIG	Multimedia Information Modeling and Retrieval group of LIG Explainable and Responsible Artificial Intelligence Chair of the MIAI Institute.

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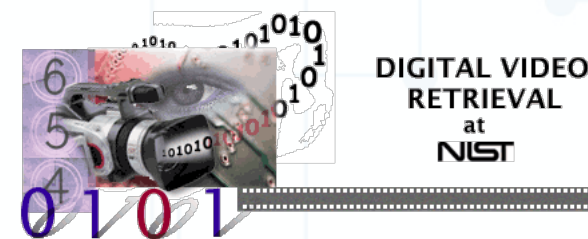
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➢ National Institute of Standards and Technology (NIST)
➢ Intelligence Advanced Research Projects Activity (IARPA)
➢ Defense Advanced Research Projects Agency (DARPA)

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

Resources & Contributions
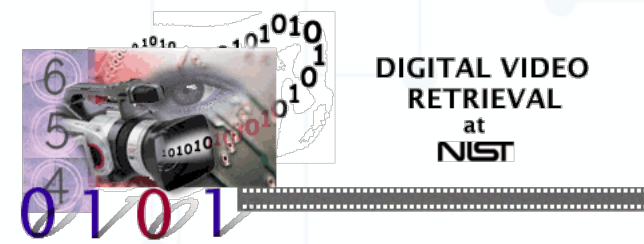
➢ Luca Rossetto and Heiko Schuldt (University of Basel) who Provided the V3C dataset, master shot reference and metadata

➢ Georges Quénot at LIG who provided the master shot reference for the IACC.3 video

➢ The LIMSI Spoken Language Processing Group and Vocapia Research provided ASR for the IACC.2-3 videos and HAVIC data

➢ Koichi Shinoda of the TokyoTechCanon team agreed to host a copy of the IACC.2 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

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

➢ Andrew Weinert and Jeffrey Liu (MIT Lincoln Laboratory) for their support to the DSDI LADI dataset

Agenda at a glance

1 **Day 1 (Dec. 8)**

Adhoc Video Search

Video-to-Text

2 **Day 2 (Dec. 9)**

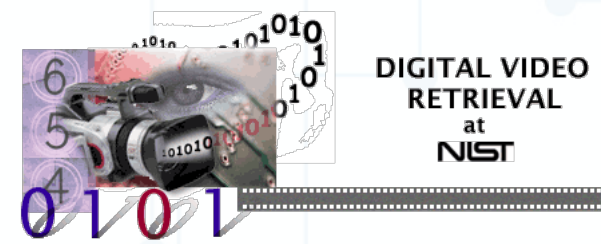Activities in Extended Videos

Posters

3 **Day 3 (Dec. 10)**

Instance Search

Video Summarization

Demos

4 **Day 4 (Dec. 11)**

Disaster Scene Description & Indexing

Workshop Conclusion

Miscellany

➢ Slack
  ➢ Task channels
  ➢ Agenda/Schedule Channel
  ➢ BlueJeans Meeting links
  ➢ Random
➢ BlueJeans links
  ➢ 1 Social meet & greet link
  ➢ 4 Collaboration room links available on demand
➢ Online workshop proceeding can be found at:
  ➢ **http://www-nlpir.nist.gov/projects/tv2020/tv20.workshop.notebook/**