

# Yannis Avrithis

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## Summary

Dr. Yannis Avrithis is a Principal Investigator at the Institute of Advanced Research on Artificial Intelligence (IARAI), Austria, carrying out research on computer vision and machine learning. Before that he was a Research Director in the Information Management Systems Institute (IMSI) of Athena Research Center, Greece. He has also worked at the LinkMedia team of Inria Rennes–Bretagne Atlantique, France, at the National and Kapodistrian University of Athens (NKUA) and at the National Technical University of Athens (NTUA), Greece, where he lead the Image and Video Analysis (IVA) team. He holds the HDR qualification from University of Rennes 1, PhD and Diploma degrees from NTUA and MSc degree from Imperial College, University of London, UK. He has been involved in 16 European, 6 French and 10 Greek research projects, he has co-supervised 17 Ph.D. theses and 23 Diploma/Masters theses, and he has published 4 theses, 3 edited volumes, 31 articles in journals, 131 in conferences and workshops, 8 book chapters and 43 technical reports in the above fields. He has contributed to the organization of 25 conferences and workshops. He has served as associate editor in 2 scientific journals and as a reviewer in 16 journals and 18 conferences. He is a senior member of IEEE and a member of ELLIS, ACM, EURASIP and the Technical Chamber of Greece.

## Research interests

Computer vision,  
machine learning

Visual feature detection, representation of visual appearance and geometry, image matching and registration, image indexing and retrieval, clustering, nearest neighbor search, visual representation learning, unsupervised and semi-supervised learning, object detection and recognition, scene classification, image/video segmentation and tracking, and video summarization.

## Education / Qualifications

- 2020 **Habilitation à Diriger des Recherches (HDR) in Computer Science.** University of Rennes 1, France.
- 1996–2001 **Ph.D. in Electrical and Computer Engineering.** National Technical University of Athens, Greece.
- 1993–1994 **M.Sc. in Communications and Signal Processing (with Distinction).** *Imperial College of Science, Technology and Medicine*, University of London, UK.
- 1988–1993 **Diploma/M.Eng. in Electrical and Computer Engineering.** National Technical University of Athens, Greece.

## Professional memberships

- 2021– *Member.* European Lab for Learning and Intelligent Systems [ELLIS].
- 2019– *Senior Member.* Institute of Electrical and Electronics Engineers [IEEE].
- 2001– *Member.* European Signal Processing Society [EURASIP].
- 1998– *Member.* Association of Computing Machinery [ACM].

- 1996– *Member.* Institute of Electrical and Electronics Engineers [IEEE].
- 1994– *Member.* Technical Chamber of Greece [TCG].

## Employment history

- 2022– **Principal Investigator.** Institute of Advanced Research on Artificial Intelligence (IARAI), Landstraßer Hauptstraße 5, 1030 Vienna, Austria.
- 2021–2022 **Research Director.** *Information Management Systems Institute*, Athena Research Center, Artemidos 6 & Epidavrou, 15125 Marousi, Greece.
- 2016–2021 **Research Scientist.** *LinkMedia team*, Inria Rennes–Bretagne Atlantique, Campus de Beaulieu, 35042 Rennes Cedex, France.
- 2015 **Research Scientist.** *Laboratory of Algebraic and Geometric Algorithms*, National and Kapodistrian University of Athens (NKUA), Panepistimioupolis, 157 84 Ilissia, Greece.
- 2014–2022 **Scientific Advisor.** Odd Concepts Inc., 5F Sambo BD, 5 Teheran-ro19-gil, Gangnam-gu, Seoul, Korea.
- 2001–2014 **Senior Researcher.** *Image, Video and Multimedia Systems Laboratory (IVML)*, National Technical University of Athens (NTUA), 9 Iroon Polytechniou Str., 157 73 Zographou, Greece.
- 2002–2004 **Project Manager, Research & Development.** Syntax IT, Inc., 218 Mesogion Ave., 155 61 Holargos, Athens, Greece.
- 1997–1999 **Software Engineer.** Infolab Multimedia Ltd, 320 Mesogion Ave., 155 62 Holargos, Athens, Greece.
- 1995–1997 **System Administrator.** *Image, Video and Multimedia Systems Laboratory (IVML)*, National Technical University of Athens (NTUA), 9 Iroon Polytechniou Str., 157 73 Athens, Greece.

## Teaching / training activities

- 2021 **Social Guest.** *Summer School: PRAIRIE/MIAI Artificial Intelligence Summer School [PAISS]*, Virtual, July 5-9, 2021.
- 2021 **Instructor.** *Seminar: Deep Learning and Computer Vision [DLCV]*, Doctoral School: GRAPES Doctoral school I, National and Kapodistrian University of Athens (NKUA), Virtual, February 1-8, 2021.
- 2019– **Visiting Professor.** *Computer Vision [CV]*, Interdisciplinary postgraduate program MSc in Data Science & Information Technologies (DSIT), National and Kapodistrian University of Athens (NKUA), Greece.
- 2018 **Instructor.** *Seminar: Deep Learning for Computer Vision [DLCV]*, Interdisciplinary postgraduate program: Information Technologies in Medicine and Biology (ITMB), National and Kapodistrian University of Athens (NKUA), Athens, Greece, May 10-11, 2018.
- 2017–2022 **Visiting Professor.** *Deep Learning for Vision [DLV]*, Interdepartmental master Research in Computer Science (SIF), University of Rennes 1 (UR1), University of Southern Brittany (UBS), ENS Rennes, National Institute of Applied Sciences (INSA), CentraleSupélec, Rennes, France.
- 2007–2014 **Adjunct Professor (407/80: 2008–2010).** *Image and Video Analysis [IVA]*, School of Electrical and Computer Engineering, National Technical University of Athens (NTUA), Greece.

- 2007 **Organizing Committee member.** *Summer School: Multimedia Semantics: Analysis, Annotation, Retrieval and Applications [SSMS]*, Glasgow, UK, July 15-21, 2007.
- 2006 **Organizing Committee member.** *Summer School: Multimedia Semantics: Analysis, Annotation, Retrieval and Applications [SSMS]*, Chalkidiki, Greece, September 4-8, 2006.
- 2005–2014 **Adjunct Professor (407/80: 2005–2006).** *Signals and Systems [SS]*, School of Electrical and Computer Engineering, National Technical University of Athens (NTUA), Greece.
- 2003–2005 **Seminar Organizer.** *Research and Technology Training Network: Multimedia Knowledge Discovery and Management [MultiMine]*, Athens, Greece.
- 1996–1999 **Assistant Lecturer.** *Analog Electronic Circuits*, School of Electrical and Computer Engineering, National Technical University of Athens (NTUA), Greece.
- 1996–1998 **Assistant Lecturer.** *Digital Image Processing*, School of Electrical and Computer Engineering, National Technical University of Athens (NTUA), Greece.
- 1998–2000 **Lecturer.** *Pascal programming language*, Department of Computer Science, Hellanion University of Portsmouth, Athens, Greece.
- 1998–2000 **Lecturer.** *C programming language*, Department of Computer Science, Hellanion University of Portsmouth, Athens, Greece.

#### Invited talks

- 10/2021 **Metric learning: knowledge transfer, data augmentation, and attention.** *In Large-Scale Visual Localization Tutorial ICCV 2021*, Virtual.
- 3/2019 **Unsupervised and Semi-Supervised Learning on Manifolds.** Linkmedia Team, Inria Rennes–Bretagne Atlantique, France.
- 3/2018 **Deep image retrieval and manifold learning.** Safran Tech, Paris, France.
- 9/2017 **Deep learning and image retrieval.** *In Deep Learning in Vision, Language, and Multimedia Workshop* Inria Rennes–Bretagne Atlantique, France.
- 5/2017 **Searching over manifolds of image regions.** Facebook Research, Menlo Park, CA, US.
- 3/2016 **Large scale clustering and nearest neighbor search.** *In 38th Pattern Recognition and Computer Vision Colloquium*, Center for Machine Perception (CMP), Czech Technical University (CVUT), Prague, Czech Republic.
- 1/2016 **Geometry in shape decomposition, feature detection, matching, retrieval, clustering, and nearest neighbor search.** Institute of Computer Science (ICS), Foundation for Research and Technology–Hellas (FORTH), Heraklion, Greece.
- 11/2015 **Clustering and nearest neighbor search.** Laboratory of Algebraic and Geometric Algorithms (EρΓA), National and Kapodistrian University of Athens (NKUA), Greece.
- 6/2015 **Geometry in feature detection, matching, search, and clustering.** General Robotics, Automation, Sensing & Perception (GRASP) Laboratory, University of Pennsylvania, US.
- 3/2015 **Approximate nearest neighbor search: binary codes and vector quantization.** Laboratory of Algebraic and Geometric Algorithms (EρΓA), National and Kapodistrian University of Athens (NKUA), Greece.

- 10/2014 **Image retrieval, vector quantization and nearest neighbor search.** *In  $\mu$ -Workshop on Computer Vision*, TEXMEX Research Team, Inria Rennes–Bretagne Atlantique, France.
- 4/2012 **Image matching and visual search.** Management of Data, Information and Knowledge (MADGIK) Group, National and Kapodistrian University of Athens (NKUA), Greece.
- 3/2011 **Image matching and visual search: local features and geometry.** Laboratoire Bordelais de Recherche en Informatique (LaBRI), University of Bordeaux, France.
- 9/2006 **Semantic multimedia content analysis.** *In Workshop on Knowledge in Multimedia Content* IST Event 2006, Helsinki, Finland.

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### Ph.D. students / co-supervision

- 2020– *Konstantinos Tertikas.* Deep learning for 3D shape retrieval.
- 2020– *Shashanka Venkataramanan.* Metric learning for instance- and category-level visual representations.
- 2020– *Bill Psomas.* Incremental learning.
- 2020– *Felipe Torres Figueroa.* Learning discriminative representations to interpret image recognition models.
- 2020– *Deniz Engin.* Semantic multimodal question answering.
- 2018–2021 *Yann-Raphaël Lifchitz.* Representation and adaptation for few-shot image classification.
- 2017–2021 *Hanwei Zhang.* Deep learning in adversarial context.
- 2016–2019 *Oriane Siméoni.* Robust image representation for classification, retrieval and object discovery.
- 2013– *Nikos Papanelopoulos.* Visual sketch retrieval.
- 2009–2014 *Yannis Kalantidis.* Web-scale image search, clustering and localization.
- 2008–2016 *Christos Varytimidis.* Local feature detection for visual information retrieval.
- 2008–2013 *Giorgos Tolias.* Large scale object-based image retrieval.
- 2005–2009 *Evangelos Spyrou.* Semantic search of audiovisual content using knowledge.
- 2004–2009 *Thanos Athanasiadis.* Knowledge technologies and access to audiovisual information.
- 2003–2008 *Konstantinos Papantzikos.* Visual saliency models for the analysis of static and moving images.
- 2003–2008 *Phivos Mylonas.* Adaptive multimedia content access based on context and user profiles.
- 2001–2005 *Manolis Wallace.* Intelligent knowledge-based systems in uncertain environments.

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### Diploma Thesis/M.Sc. students / co-supervision

- 2022–2023 *Thodoris Lympieropoulos.* On the baseline image for the evaluation of attribution methods.
- 2022–2023 *Chris Morfopoulos.* Enhancing and Unifying Vision-Language Tasks with Diffusion Models.
- 2021–2022 *Dimitrios Reppas.* On visual explanation of supervised and self-supervised learning.
- 2021–2022 *Ioannis Misios.* Self-supervised Metric Learning.

- 2020–2021 *Phillip Bellos*. Iterative Label Cleaning for Semi-Supervised Learning.
- 2019–2020 *Bill Psomas*. Metric Learning: A Deep Dive.
- 2019–2020 *Timothée Neitthoffer*. Neural Architecture Growing, Pruning and Search.
- 2015–2016 *Hoel Kervadec*. Deep Hough Networks for Object Detection.
- 2014–2015 *Giorgos Mitsis*. Object Proposals for Rapid Object Detection.
- 2014–2015 *Vasileios Chatzipanos*. Compact Representations for Image Retrieval.
- 2013–2014 *Athanasios Papadopoulos*. Geometric Descriptor Aggregation for Image Retrieval and Classification.
- 2013–2014 *Georgios Perakis*. License Plate Detection and Recognition Using Local Features.
- 2011–2012 *Christos Arvanitis*. Computer Vision Methods for Augmented Reality.
- 2011–2012 *Agni Delvinioti*. Image Classification by Spatial Matching and Indexing.
- 2011–2012 *Spyros Leonardos*. Natural Image Segmentation by Medial Axis Decomposition.
- 2011–2012 *Charalampos Moustafelos*. Image Search Using Visual Synonyms.
- 2008–2009 *George Koumoulos*. Image Analysis and Retrieval by Local Feature Detection.
- 2007–2008 *Yannis Kalantidis*. Image Search Using Visual Features and Geometry.
- 2007–2008 *Christos Varytimidis*. Object Detection and Interactive Image Annotation.
- 2006–2007 *Giorgos Tolias*. Object Detection and Scene Classification Using MPEG-7 Descriptors and Visual Thesaurus.
- 2006–2007 *Antonios Makrimalis*. Person Detection Using Histograms of Oriented Gradients.
- 2005–2006 *Vicky Giannikou*. Image Matching by Shape Analysis.
- 2004–2005 *George Koumoulos*. Image Sequence Summarization—Shot Detection and Key Frame Selection.

## Research grants [European]

- 2019–2024 *Advisor*. H2020-860843 / MSCA-ITN, GRAPES: learninG, pRocessing And oPtimizing shapES.
- 2008–2011 *Principal Investigator and Coordinator*. FP7-215453 / IP, WeKnowIt: Emerging, Collective Intelligence for Personal, Organisational and Social Use.
- 2008–2010 *Principal Investigator*. FP7-214306 / IP, JUMAS: Judicial Management by Digital Libraries Semantics.
- 2006–2009 *Principal Investigator*. FP6-034626 / STREP, Imagination: Image-Based Navigation in Multimedia Archives.
- 2006–2009 *Principal Investigator*. FP6-027538 / STREP, BOEMIE: Bootstrapping Ontology Evolution with Multimedia Information Extraction.
- 2006–2009 *Principal Investigator*. FP6-027685 / IP, MESH: Multimedia Semantic Syndication for Enhanced News Services.
- 2006–2010 *Principal Investigator*. FP6-26978 / IP, X-Media: Knowledge Sharing and Reuse Across Media.
- 2006–2008 *Principal Investigator*. FP6-027026 / NoE, K-Space: Knowledge Space of Semantic Inference for Automatic Annotation and Retrieval of Multimedia Content.
- 2004–2007 *Principal Investigator*. FP6-507752 / NoE, MUSCLE: Multimedia Understanding through Semantics, Computation and Learning.
- 2004–2007 *Principal Investigator*. FP6-001765 / IP, aceMedia: Integrating Knowledge, Semantics and Content for User-Centred Intelligent Media Services.
- 2002–2004 *Principal Investigator and Coordinator*. IST-2001-32504, MIRROR: World Communities of Practice for Learning and Innovation in Natural Science.



- 2001–2003 *Principal Investigator and Technical Leader.* IST-1999–20502, FAETHON: Unified Intelligent Access to Heterogeneous Audiovisual Content.
- 1997–2001 *Researcher.* Training and Mobility of Research, PHYSTA: Principled Hybrid Systems Theory and Applications.
- 1998–1999 *Researcher.* Educational Multimedia Task Force, MODULATES: Multimedia Organization for Developing the Understanding and Learning of Advanced Technology in European Schools.
- 1996–1999 *Researcher.* ESPRIT 22266 Multimedia Support Centers, MCUBE: Mediterranean Multimedia - Multimedia Support Center for Culture and Arts.
- 1993–1996 *Researcher.* Human Capital and Mobility, MANADIX: Motion Analysis in Advanced Image Communication Systems.

### Research grants [French]

- 2020–2023 *Researcher.* CIFRE-2020, MQA: Semantic Multimodal Question Answering in Domestic Environments.
- 2020–2023 *Researcher.* ANR-19-CE23-0028, MEERQAT: MultimEdia Entity Representation and Question Answering Tasks.
- 2020–2024 *Scientific Partner.* ANR-2019-103385 / JCJC, UNLIR: Unsupervised Representation Learning for Image Recognition.
- 2018–2019 *Researcher.* MIC/BnF, BnF: Classification of cultural heritage images.
- 2018–2021 *Principal Investigator.* CIFRE-2017-1744, Few-shot learning for object recognition in aerial images.
- 2018–2020 *Principal Investigator.* Images & Réseaux AAP-PME-2017, MobilAI: Computer vision for smart phones.

### Research grants [Greek]

- 2011–2014 *Researcher.* EPAN II 09SYN-72-922, IS-Helleana: Intelligent System for HELLEnic Audiovisual National Aggregator.
- 2006–2008 *Researcher.* Image, Sound and Language Processing, Eikonognosia: Management and Advanced Access to Scientific Data and Documentation of Byzantine Works of Art.
- 2006–2008 *Principal Investigator.* PENED, OntoMedia: Semantic Multimedia Content Analysis Using Knowledge Technologies.
- 2006–2007 *Principal Investigator.* Image, Sound and Language Processing, DELTIO: Multimedia Content Analysis using Ontology Evolution with Application to TV News Programs.
- 2004–2007 *Principal Investigator.* EPAN-03DSBEPRO-44, VisualAsset: Multimedia Document Analysis, Information Extraction and Management.
- 2003–2005 *Principal Investigator.* EPAN, MultiMine: Research and Technology Training Network in Multimedia Knowledge Discovery and Management.
- 1999–2001 *Researcher.* EPET II - EKBAN, PANORAMA: An Intelligent System for Retrieval and Mining of Audiovisual Material.
- 1997–2000 *Researcher.* SYN-96, VoD: Video-on-Demand System Using the MPEG-2 Standard.
- 1997–1999 *Researcher.* EPET II Service Providing Laboratories, IVML: Image, Video and Multimedia Systems Laboratory.
- 1995–1997 *Researcher.* EKBAN-504, NIKA: Generalized Medical Image Processing and Management System.

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## Conference organization

- 2024 *Area Chair.* IEEE/CVF Winter Conference on Applications of Computer Vision [WACV], Waikoloa, Hawaii, US, January 4-8, 2024.
- 2023 *Area Chair.* British Machine Vision Conference [BMVC], Aberdeen, UK, November 20-24, 2023.
- 2022 *Area Chair.* IEEE/CVF Conference on Computer Vision and Pattern Recognition [CVPR], New Orleans, Louisiana, June 21-24, 2022.
- 2019 *Workshops Chair.* 27th ACM Multimedia Conference [ACM-MM], Nice, France, Oct 21-25, 2019.
- 2017 *Area Chair.* Multimedia Search and Recommendation, 25th ACM Multimedia Conference [ACM-MM], Mountain View, CA, USA, Oct 23-27, 2017.
- 2017 *Area Chair.* Image, Video, and Multimedia Processing, 25th European Signal Processing Conference [EUSIPCO], Kos, Greece, Aug 28-Sep 2, 2017.
- 2009 *Program Chair.* ACM International Conference on Image and Video Retrieval [CIVR], Santorini, Greece, Jul 8-10, 2009.
- 2009 *General Chair.* 7th International Workshop on Content-Based Multimedia Indexing [CBMI], Chania, Greece, Jun 3-5, 2009.
- 2009 *Program Chair.* 15th International Multimedia Modeling Conference [MMM], Sophia-Antipolis, France, Jan 7-9, 2009.
- 2007 *General Chair.* Second International Conference on Semantic and Digital Media Technologies [SAMT], Genova, Italy, Dec 5-7, 2007.
- 2007 *General Chair.* 8th International Workshop on Image Analysis for Multimedia Interactive Services [WIAMIS], Santorini, Greece, Jun 6-8, 2007.
- 2006 *General Chair.* 1st International Conference on Semantic and Digital Media Technologies [SAMT], Athens, Greece, Dec 6-8, 2006.
- 2006 *Organizer.* Workshop on Knowledge in Multimedia Content [KMC], Information Society Technologies Event 2006 [IST], Helsinki, Finland, Nov 22, 2006.
- 2006 *Organizer.* Workshop on Ontology Evolution and Multimedia Information Extraction [BOEMIE], 15th International Conference on Knowledge Engineering and Knowledge Management [EKAW], Podebrady, Czech Republic, Oct 2-6, 2006.
- 2006 *Organizer.* Special Session on Semantic Multimedia Analysis for Annotation and Retrieval [SMAR], International Conference on Visual Information Engineering [VIE], Bangalore, India, Sep 26-28, 2006.
- 2006 *Organizer.* Special Session on Neural Networks for Semantic Image and Video Analysis [SIVA], International Conference on Artificial Neural Networks [ICANN], Athens, Greece, Sep 10-14, 2006.
- 2006 *Local Organizing Committee member.* International Conference on Artificial Neural Networks [ICANN], Athens, Greece, Sep 10-14, 2006.
- 2005 *Special Sessions Organizer.* 2nd European Workshop on the Integration of Knowledge, Semantic and Digital Media Technologies [EWIMT], London, UK, Nov 30-Dec 1, 2005.
- 2005 *Co-Organizer.* Special Session on Intelligent Multimedia and Semantics [IMS], International Conference on Artificial Neural Networks [ICANN], Warsaw, Poland, Sep 11-15, 2005.
- 2005 *Program Chair.* Workshop on Multimedia Knowledge Discovery and Management [MultiMine], Athens, Greece, Jun 28, 2005.

- 2005 *Local Arrangements*. Workshop on Multimedia and the Semantic Web [MMSW], 2nd European Semantic Web Conference [ESWC], Heraklion, Greece, May 29–Jun 1, 2005.
- 2004 *Session Chair*. EU Project Session, ACM International Conference on Image and Video Retrieval [CIVR], Dublin, Ireland, Jul 21-23, 2004.
- 2003 *Program Co-Chair*. Workshop on Intelligent Access to Audiovisual Content [WIAAC], Athens, Greece, Apr 3, 2003.
- 2001 *Liaison with Industry, Local Organization Committee*. International Workshop on Very Low Bitrate Video Coding [VLBV], Athens, Greece, Oct 11-12, 2001.
- 1997 *Local Arrangements*. International Workshop on Applications and Perspectives of Neural Network Technology in Greece and the Broader Balkan Area [WANN], Athens, Greece, Feb 21, 1997.

### Academic Juries

- 06/2023 *PhD Reviewer and Jury member*. Bulent Sariyildiz (advised by Yannis Kalantidis, Diane Larlus, Karteek Alahari), Inria Grenoble, Naver Labs Europe, Grenoble, France, June 2023.
- 12/2022 *PhD Jury member*. Yuqing Hu (advised by Vincent Gripon, Stephane Pateux), IMT Atlantique Bretagne-Pays de la Loire, Brest, France, Dec 6, 2022.
- 11/2022 *PhD Jury member*. Huy V. Vo (advised by Patrick Pérez, Jean Ponce), Ecole Normale Supérieure, Inria, Valeo.ai, Paris, France, Nov 28, 2022.
- 10/2021 *MSc Jury member*. Andreas Zamanos (advised by Ioannis Emiris, Evangelia D. Chrysina), National and Kapodistrian University of Athens (NKUA), Athens, Greece, Oct 8, 2021.
- 11/2020 *PhD Reviewer and Jury member*. Patrick Bordes (advised by Benjamin Piwowarski, Patrick Gallinari), Paris-Sorbonne Université, Paris, France, Nov 26, 2020.
- 07/2020 *MSc Jury member*. Nikos Efthymiadis (advised by Giorgos Tolias, Ioannis Emiris), National and Kapodistrian University of Athens (NKUA), Athens, Greece, Jul 16, 2020.
- 06/2020 *PhD Reviewer and Jury member*. Martin Engilberge (advised by Matthieu Cord, Patrick Pérez, Louis Chevallier), Paris-Sorbonne Université, Paris, France, Jun 12, 2020.
- 03/2011 *PhD Reviewer and Jury member*. Rémi Vieux (advised by Achille Braquelaire, Jenny Benois-Pineau), Université de Bordeaux, Bordeaux, France, Mar 30, 2011.
- 09/2008 *PhD Reviewer*. David Vallet (advised by Pablo Castells), Universidad Autonoma de Madrid, Madrid, Spain, Sep 8, 2008.

### Advising activities

- 2021–2023 *Member of Advisory Board*. H2020 project DeepCube [DeepCube], European Commission.
- 2021– *Member of Advisory Board*. CrossOver Technology Limited [CrossOver], UK.

### Evaluator activities

- 2021 *Proposal Reviewer*. Israel Science Foundation [ISF].
- 2020 *Project Reviewer and Rapporteur*. Post-Doctoral Research project, State Education Development Agency [SEDA], Latvia.
- 2017–2018 *Proposal Reviewer and Rapporteur*. State Education Development Agency [SEDA], Latvia.



- 2017–2021 *Proposal Reviewer*. Agence Nationale de la Recherche [ANR], France.
- 2010–2012 *Reviewer and Rapporteur*. FP7-231761 Integrated Project NoTube [NoTube], European Commission, DG Information Society and Media, Unit E2.

### Editorial activities

- 2021– *Associate Editor*. Computer Vision and Image Understanding [CVIU].
- 2009–2014 *Associate Editor*. EURASIP Journal on Image and Video Processing [JIVP].

### Reviewer in journals

- 2021– International Journal of Computer Vision [IJCV]
- 2014 ACM Computing Surveys [CSUR]
- 2012 Elsevier: Image and Vision Computing [IVC]
- 2008–2021 Elsevier: Computer Vision and Image Understanding [CVIU]
- 2007–2016 Elsevier: Neurocomputing [NEUCOM]
- 2006–2010 Elsevier: Signal Processing: Image Communication [SP:IC]
- 2006 IEEE Transactions on Evolutionary Computation [TEVC]
- 2005–2009 IEEE Transactions on Multimedia [TMM]
- 2004–2005 IEE Proceedings on Vision, Image and Signal Processing [IEE-VIS]
- 2004–2008 IEEE Transactions on Circuits and Systems for Video Technology [TCSVT]
- 2004– IEEE Transactions on Pattern Analysis and Machine Intelligence [TPAMI]
- 2004–2016 Springer: Multimedia Tools and Applications [MTAP]
- 2004 Springer: Pattern Analysis and Applications [PAA]
- 2003 EURASIP Journal of Applied Signal Processing [JASP]
- 2002 IEEE Transactions on Image Processing [TIP]
- 2002 Springer: Machine Vision and Applications [MVA]

### Program Committee member in conferences

- 2023– International Conference on Machine Learning [ICML]
- 2022– Conference on Neural Information Processing Systems [NeurIPS]
- 2022– International Conference on Learning Representations [ICLR]
- 2013– International Conference on Computer Vision [ICCV]
- 2013– IEEE Conference on Computer Vision and Pattern Recognition [CVPR]
- 2012– European Conference on Computer Vision [ECCV]
- 2012–2016 British Machine Vision Conference [BMVC]
- 2012 ACM International Conference on Multimedia Retrieval [ICMR]
- 2009–2013 International Multimedia Modeling Conference [MMM]
- 2009 International Conference on Digital Signal Processing [DSP]
- 2007–2016 ACM Multimedia Conference [ACM-MM]
- 2007–2008 ACM International Conference on Image and Video Retrieval [CIVR]
- 2007 European Signal Processing Conference [EUSIPCO]
- 2007–2017 International Conference on Multimedia and Expo [ICME]
- 2006–2007 International Conference on Visual Information Engineering [VIE]
- 2005–2017 IEEE International Conference on Acoustics, Speech, and Signal Processing [ICASSP]
- 2004–2016 IEEE International Conference on Image Processing [ICIP]
- 2002–2009 International Conference on Artificial Neural Networks [ICANN]

### Program Committee member in workshops

- 2006 ESWC Workshop on Mastering the Gap: From Information Extraction to Semantic Representation [MTG]
- 2006 International Workshop on Semantic Web Annotations for Multimedia [SWAMM]

- 2005 European Workshop on the Integration of Knowledge, Semantic and Digital Media Technologies [EWIMT]
- 2005–2013 Workshop on Image Analysis for Multimedia Interactive Services [WIAMIS]
- 2003–2016 International Workshop on Content-Based Multimedia Indexing [CBMI]

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## Publications

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### Theses

- [T4] Yannis Avrithis. “Exploring and Learning from Visual Data”. HDR Thesis. Rennes, France: University of Rennes 1 (UR1), July 2020.
- [T3] Yannis Avrithis. “Video Sequence Analysis for Content Description, Summarization and Content-Based Retrieval”. PhD thesis. Athens, Greece: School of Electrical and Computer Engineering; National Technical University of Athens (NTUA), Feb. 2001.
- [T2] Yannis Avrithis. “Investigating the Capacity of a Cellular CDMA System”. MA thesis. London, UK: Department of Electrical, Electronic Engineering; Imperial College of Science, Technology, and Medicine, University of London (IC), Oct. 1994.
- [T1] Yannis Avrithis. “Fuzzy Logic Processor for Control Systems”. MA thesis. Athens, Greece: School of Electrical and Computer Engineering; National Technical University of Athens (NTUA), Sept. 1993.

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### Edited volumes

- [V3] Benoit Huet, Alan Smeaton, Ketan Mayer-Patel, and Yannis Avrithis, eds. *Advances in Multimedia Modeling*. Vol. 5371. Lecture Notes in Computer Science (LNCS). Springer, Jan. 2009. ISBN: 978-3-540-92891-1.
- [V2] Bianca Falcidieno, Michela Spagnuolo, Yannis Avrithis, Ioannis Kompatsiaris, and Paul Buitelaar, eds. *Semantic Multimedia*. Vol. 4816. Lecture Notes in Computer Science (LNCS). Springer, Dec. 2007. ISBN: 978-3-540-77033-6.
- [V1] Yannis Avrithis, Yiannis Kompatsiaris, Steffen Staab, and Noel O’Connor, eds. *Semantic Multimedia*. 1st. Vol. 4306. Lecture Notes in Computer Science (LNCS). Springer, Dec. 2006. ISBN: 978-3-540-49335-8.

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### Journal articles

- [J31] Zhaohui Yang, Miaoqing Shi, Chao Xu, Vittorio Ferrari, and Yannis Avrithis. “Training Object Detectors from Few Weakly-Labeled and Many Unlabeled Images”. In: *Pattern Recognition (PR)* 120 (Dec. 2021), p. 108164.
- [J30] Hanwei Zhang, Yannis Avrithis, Teddy Furon, and Laurent Amsaleg. “Walking on the Edge: Fast, Low-Distortion Adversarial Examples”. In: *IEEE Transactions on Information Forensics and Security (TIFS)* 16 (2021), pp. 701–713.
- [J29] Hanwei Zhang, Yannis Avrithis, Teddy Furon, and Laurent Amsaleg. “Smooth Adversarial Examples”. In: *EURASIP Journal on Information Security (JIS)* 2020 (2020), pp. 15–26.
- [J28] Oriane Siméoni, Ahmet Iscen, Giorgos Tolias, Yannis Avrithis, and Ondřej Chum. “Graph-based Particular Object Discovery”. In: *Machine Vision and Applications (MVA)* 30.2 (Mar. 2019), pp. 243–254.
- [J27] Nikos Papanelopoulos, Yannis Avrithis, and Stefanos Kollias. “Revisiting the Medial Axis for Planar Shape Decomposition”. In: *Computer Vision and Image Understanding (CVIU)* 179 (Feb. 2019), pp. 66–78.
- [J26] Christos Varytimidis, Konstantinos Rapantzikos, Yannis Avrithis, and Stefanos Kollias. “ $\alpha$ -shapes for local feature detection”. In: *Pattern Recognition (PR)* 50.1 (Feb. 2016), pp. 56–73.
- [J25] Giorgos Tolias, Yannis Avrithis, and Hervé Jégou. “Image search with selective match kernels: aggregation across single and multiple images”. In: *International Journal of Computer Vision (IJCV)* 116.3 (Feb. 2016), pp. 247–261.

- [J24] Christos Varytimidis, Konstantinos Rapantzikos, Yannis Avrithis, and Stefanos Kollias. “Dithering-based Sampling and Weighted  $\alpha$ -shapes for Local Feature Detection”. In: *IPSN Transactions on Computer Vision and Applications (CVA)* 7.1 (Dec. 2015), pp. 189–200.
- [J23] Giorgos Tolias, Yannis Kalantidis, Yannis Avrithis, and Stefanos Kollias. “Towards large-scale geometry indexing by feature selection”. In: *Computer Vision and Image Understanding (CVIU)* 120 (2014), pp. 31–45.
- [J22] Yannis Avrithis and Giorgos Tolias. “Hough Pyramid Matching: Speeded-up geometry re-ranking for large scale image retrieval”. In: *International Journal of Computer Vision (IJCV)* 107.1 (Mar. 2014), pp. 1–19.
- [J21] Georgios Evangelopoulos, Athanasia Zlatintsi, Alexandros Potamianos, Petros Maragos, Konstantinos Rapantzikos, Georgios Skoumas, and Yannis Avrithis. “Multimodal Saliency and Fusion for Movie Summarization based on Aural, Visual, and Textual Attention”. In: *IEEE Transactions on Multimedia (TMM)* 15.7 (Nov. 2013), pp. 1553–1568.
- [J20] Konstantinos Rapantzikos, Yannis Avrithis, and Stefanos Kollias. “Spatiotemporal features for action recognition and salient event detection”. In: *Cognitive Computation (CC) (Special Issue on Saliency, Attention, Visual Search and Picture Scanning)* 3.1 (Mar. 2011). Ed. by J.G. Taylor and V. Cutsuridis, pp. 167–184.
- [J19] Yannis Kalantidis, Giorgos Tolias, Yannis Avrithis, Marios Phinikettos, Evaggelos Spyrou, Phivos Mylonas, and Stefanos Kollias. “VIRaL: Visual Image Retrieval and Localization”. In: *Multimedia Tools and Applications (MTAP)* 51.2 (Jan. 2011), pp. 555–592.
- [J18] Konstantinos Rapantzikos, Nicolas Tsapatsoulis, Yannis Avrithis, and Stefanos Kollias. “Spatiotemporal Saliency for Video Classification”. In: *Signal Processing: Image Communication (SP:IC)* 24.7 (Aug. 2009), pp. 557–571.
- [J17] Phivos Mylonas, Evaggelos Spyrou, Yannis Avrithis, and Stefanos Kollias. “Using Visual Context and Region Semantics for High-Level Concept Detection”. In: *IEEE Transactions on Multimedia (TMM)* 11.11 (Feb. 2009), pp. 229–243.
- [J16] Evaggelos Spyrou, Giorgos Tolias, Phivos Mylonas, and Yannis Avrithis. “Concept detection and keyframe extraction using a visual thesaurus”. In: *Multimedia Tools and Applications (MTAP)* 41.3 (Feb. 2009), pp. 337–373.
- [J15] Phivos Mylonas, Thanos Athanasiadis, Manolis Wallace, Yannis Avrithis, and Stefanos Kollias. “Semantic Representation of Multimedia Content: Knowledge Representation and Semantic Indexing”. In: *Multimedia Tools and Applications (MTAP)* 39.3 (Sept. 2008), pp. 293–327.
- [J14] Phivos Mylonas, David Vallet, Pablo Castells, Miriam Fernández, and Yannis Avrithis. “Personalized information retrieval based on context and ontological knowledge”. In: *Knowledge Engineering Review (KER)* 23.1 (Mar. 2008), pp. 73–100.
- [J13] Thanos Athanasiadis, Phivos Mylonas, Yannis Avrithis, and Stefanos Kollias. “Semantic Image Segmentation and Object Labeling”. In: *IEEE Transactions on Circuits and Systems for Video Technology (CSVT)* 17.3 (Mar. 2007), pp. 298–312.
- [J12] David Vallet, Pablo Castells, Miriam Fernández, Phivos Mylonas, and Yannis Avrithis. “Personalized Content Retrieval in Context Using Ontological Knowledge”. In: *IEEE Transactions on Circuits and Systems for Video Technology (CSVT)* 17.3 (Mar. 2007), pp. 336–346.
- [J11] Georgios Papadopoulos, Phivos Mylonas, Vasileios Mezaris, Yannis Avrithis, and Ioannis Kompatsiaris. “Knowledge-Assisted Image Analysis Based on Context and Spatial Optimization”. In: *International Journal on Semantic Web and Information Systems (SWIS)* 2.3 (July 2006), pp. 17–36.
- [J10] Konstantinos Rapantzikos, Nicolas Tsapatsoulis, Yannis Avrithis, and Stefanos Kollias. “Bottom-Up Spatiotemporal Visual Attention Model for Video Analysis”. In: *IET Image Processing (IP)* 1.2 (June 2007), pp. 237–248.

- [J9] Kosmas Petridis, Stephan Bloehdorn, Carsten Saathoff, Nikolaos Simou, Stamatia Dasiopoulou, Vassilis Tzouvaras, Siegfried Handschuh, Yannis Avrithis, Ioannis Kompatsiaris, and Steffen Staab. “Knowledge Representation and Semantic Annotation of Multimedia Content”. In: *IEEE Proceedings on Vision, Image and Signal Processing (VISIP) (Special Issue on Knowledge-Based Digital Media Processing)* 153.3 (June 2006), pp. 255–262.
- [J8] Manolis Wallace, Yannis Avrithis, and Stefanos Kollias. “Computationally efficient sup-*t* transitive closure for sparse fuzzy binary relations”. In: *Fuzzy Sets and Systems (FSS)* 157.3 (Feb. 2006), pp. 341–372.
- [J7] Manolis Wallace, Thanos Athanasiadis, Yannis Avrithis, Anastasios Delopoulos, and Stefanos Kollias. “Integrating Multimedia Archives: The Architecture and the Content Layer”. In: *IEEE Transactions on Systems, Man, and Cybernetics, Part A: Systems and Humans (SMC-A)* 36.1 (Jan. 2006), pp. 34–52.
- [J6] Yannis Avrithis, Giorgos Stamou, Manolis Wallace, Ferran Marques, Philippe Salembier, Xavier Giro, Werner Haas, Heribert Vallant, and Michael Zufferey. “Unified Access to Heterogeneous Audiovisual Archives”. In: *Journal of Universal Computer Science (JUCS)* 9.6 (June 2003), pp. 510–519.
- [J5] Nicolas Tsapatsoulis, Yannis Avrithis, and Stefanos Kollias. “Facial Image Indexing in Multimedia Databases”. In: *Pattern Analysis and Applications (PAA) (Special Issue on Image Indexation)* 4.2–3 (June 2001), pp. 93–107.
- [J4] Yannis Avrithis, Yiannis Xirouhakis, and Stefanos Kollias. “Affine-Invariant Curve Normalization for Object Shape Representation, Classification, and Retrieval”. In: *Machine Vision and Applications (MVA)* 13.2 (Nov. 2001), pp. 80–94.
- [J3] Anastasios Doulamis, Nikolaos Doulamis, Yannis Avrithis, and Stefanos Kollias. “A Fuzzy Video Content Representation for Video Summarization and Content-Based Retrieval”. In: *Signal Processing (SP) (Special Issue on Fuzzy Logic in Signal Processing)* 80.6 (June 2000), pp. 1049–1067.
- [J2] Nikolaos Doulamis, Anastasios Doulamis, Yannis Avrithis, Klimis Ntalianis, and Stefanos Kollias. “Efficient Summarization of Stereoscopic Video Sequences”. In: *IEEE Transactions on Circuits and Systems for Video Technology (CSVT) (Special Issue on 3D Video Technology)* 10.4 (June 2000), pp. 501–517.
- [J1] Yannis Avrithis, Anastasios Doulamis, Nikolaos Doulamis, and Stefanos Kollias. “A Stochastic Framework for Optimal Key Frame Extraction from MPEG Video Databases”. In: *Computer Vision and Image Understanding (CVIU) (Special Issue on Content-Based Access of Image and Video Libraries)* 75.1–2 (July 1999), pp. 3–24.

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## Conference proceedings

- [C131] Shashanka Venkataramanan, Ewa Kijak, Laurent Amsaleg, and Yannis Avrithis. “Embedding Space Interpolation Beyond Mini-Batch, Beyond Pairs and Beyond Examples”. In: *Proceedings of Conference on Neural Information Processing Systems (NeurIPS)*. New Orleans, LA, US, Dec. 2023.
- [C130] Deniz Engin and Yannis Avrithis. “Zero-Shot and Few-Shot Video Question Answering with Multi-Modal Prompts”. In: *Proceedings of 5th Workshop on Closing the Loop Between Vision and Language (CLVL), part of International Conference on Computer Vision (ICCV)*. Paris, France, Oct. 2023.
- [C129] Bill Psomas, Ioannis Kakogeorgiou, Konstantinos Karantzaos, and Yannis Avrithis. “Keep It SimPool: Who Said Supervised Transformers Suffer from Attention Deficit?”. In: *Proceedings of International Conference on Computer Vision (ICCV)*. Paris, France, Oct. 2023.
- [C128] Michalis Lazarou, Yannis Avrithis, Guangyu Ren, and Tania Stathaki. “Adaptive Anchors Label Propagation for Transductive Few-Shot Learning”. In: *Proceedings of International Conference on Image Processing (ICIP)*. Kuala Lumpur, Malaysia, Oct. 2023.

- [C127] Konstantinos Tertikas, Despoina Paschalidou, Boxiao Pan, Jeong Joon Park, Mikaela Angelina Uy, Ioannis Emiris, Yannis Avrithis, and Leonidas Guibas. “Generating Part-Aware Editable 3D Shapes Without 3D Supervision”. In: *Proceedings of IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*. Vancouver, Canada, June 2023.
- [C126] Chull Hwan Song, Jooyoung Yoon, Shunghyun Choi, and Yannis Avrithis. “Boosting vision transformers for image retrieval”. In: *Proceedings of IEEE Winter Conference on Applications of Computer Vision (WACV)*. Waikoloa, HI, US, Jan. 2023.
- [C125] Ioannis Kakogeorgiou, Spyros Gidaris, Bill Psomas, Yannis Avrithis, Andrei Bursuc, Konstantinos Karantzas, and Nikos Komodakis. “What to Hide from Your Students: Attention-Guided Masked Image Modeling”. In: *Proceedings of European Conference on Computer Vision (ECCV)*. Tel Aviv, Isreal, Oct. 2022.
- [C124] Shashanka Venkataramanan, Ewa Kijak, Laurent Amsaleg, and Yannis Avrithis. “Align-Mixup: Improving representations by interpolating aligned features”. In: *Proceedings of IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*. New Orleans, LA, US, June 2022.
- [C123] Shashanka Venkataramanan, Bill Psomas, Ewa Kijak, Laurent Amsaleg, Konstantinos Karantzas, and Yannis Avrithis. “It Takes Two to Tango: Mixup for Deep Metric Learning”. In: *Proceedings of International Conference on Learning Representations (ICLR)*. Virtual, Apr. 2022.
- [C122] Chull Hwan Song, Hye Joo Han, and Yannis Avrithis. “All the attention you need: Global-local, spatial-channel attention for image retrieval”. In: *Proceedings of IEEE Winter Conference on Applications of Computer Vision (WACV)*. Waikoloa, HI, US, Jan. 2022.
- [C121] Michalis Lazarou, Tania Stathaki, and Yannis Avrithis. “Tensor feature hallucination for few-shot learning”. In: *Proceedings of IEEE Winter Conference on Applications of Computer Vision (WACV)*. Waikoloa, HI, US, Jan. 2022.
- [C120] Hanwei Zhang, Yannis Avrithis, Teddy Furon, and Laurent Amsaleg. “Patch replacement: A transformation-based method to improve robustness against adversarial attacks”. In: *Proceedings of International Workshop on Trustworthy AI for Multimedia Computing (TAI), part of ACM Multimedia Conference (ACM-MM)*. Chengdu, China, Oct. 2021.
- [C119] Deniz Engin, Ngoc Q. K. Duong, François Schnitzler, and Yannis Avrithis. “On the hidden treasure of dialog in video question answering”. In: *Proceedings of International Conference on Computer Vision (ICCV)*. Virtual, Oct. 2021.
- [C118] Michalis Lazarou, Tania Stathaki, and Yannis Avrithis. “Iterative label cleaning for transductive and semi-supervised few-shot learning”. In: *Proceedings of International Conference on Computer Vision (ICCV)*. Virtual, Oct. 2021.
- [C117] Mateusz Budnik and Yannis Avrithis. “Asymmetric metric learning for knowledge transfer”. In: *Proceedings of IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*. Virtual, June 2021.
- [C116] Yann Lifchitz, Yannis Avrithis, and Sylvaine Picard. “Local Propagation for Few-Shot Learning”. In: *Proceedings of International Conference on Pattern Recognition (ICPR)*. Virtual, Dec. 2020.
- [C115] Yann Lifchitz, Yannis Avrithis, and Sylvaine Picard. “Few-Shot Few-Shot Learning and the role of Spatial Attention”. In: *Proceedings of International Conference on Pattern Recognition (ICPR)*. Virtual, Dec. 2020.
- [C114] Ahmet Iscen, Giorgos Tolias, Yannis Avrithis, Ondřej Chum, and Cordelia Schmid. “Graph convolutional networks for learning with few clean and many noisy labels”. In: *Proceedings of European Conference on Computer Vision (ECCV)*. Virtual, Aug. 2020.
- [C113] Oriane Siméoni, Mateusz Budnik, Yannis Avrithis, and Guillaume Gravier. “Rethinking deep active learning: Using unlabeled data at model training”. In: *Proceedings of International Conference on Pattern Recognition (ICPR)*. Virtual, Dec. 2020.
- [C112] Ahmet Iscen, Giorgos Tolias, Yannis Avrithis, and Ondřej Chum. “Label propagation for Deep Semi-supervised Learning”. In: *Proceedings of IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*. Long Beach, CA, US, June 2019.



- [C111] Yann Lifchitz, Yannis Avrithis, Sylvaine Picard, and Andrei Bursuc. “Dense Classification and Implanting for Few-shot Learning”. In: *Proceedings of IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*. Long Beach, CA, US, June 2019.
- [C110] Oriane Siméoni, Yannis Avrithis, and Ondřej Chum. “Local Features and Visual Words Emerge in Activations”. In: *Proceedings of IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*. Long Beach, CA, US, June 2019.
- [C109] Ahmet Iscen, Yannis Avrithis, Giorgos Tolias, Teddy Furon, and Ondřej Chum. “Hybrid Diffusion: Spectral-Temporal Graph Filtering for Manifold Ranking”. In: *Proceedings of Asian Conference on Computer Vision (ACCV)*. Perth, Western Australia, Dec. 2018.
- [C108] Ahmet Iscen, Giorgos Tolias, Yannis Avrithis, and Ondřej Chum. “Mining on Manifolds: Metric Learning without Labels”. In: *Proceedings of IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*. Salt Lake City, UT, US, June 2018.
- [C107] Filip Radenović, Ahmet Iscen, Giorgos Tolias, Yannis Avrithis, and Ondřej Chum. “Revisiting Oxford and Paris: Large-Scale Image Retrieval Benchmarking”. In: *Proceedings of IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*. Salt Lake City, UT, US, June 2018.
- [C106] Ahmet Iscen, Yannis Avrithis, Giorgos Tolias, Teddy Furon, and Ondřej Chum. “Fast Spectral Ranking for Similarity Search”. In: *Proceedings of IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*. Salt Lake City, UT, US, June 2018.
- [C105] Oriane Siméoni, Ahmet Iscen, Giorgos Tolias, Yannis Avrithis, and Ondřej Chum. “Unsupervised object discovery for instance recognition”. In: *Proceedings of IEEE Winter Conference on Applications of Computer Vision (WACV)*. Lake Tahoe, NV/CA, US, Mar. 2018.
- [C104] Ronan Sicre, Julien Rabin, Yannis Avrithis, Teddy Furon, Frédéric Jurie, and Ewa Kijak. “Automatic discovery of discriminative parts as a quadratic assignment problem”. In: *Proceedings of International Workshop on Compact and Efficient Feature Representation and Learning (CEFRL), part of International Conference on Computer Vision (ICCV)*. Venice, Italy, Oct. 2017.
- [C103] Ahmet Iscen, Giorgos Tolias, Yannis Avrithis, Teddy Furon, and Ondřej Chum. “Efficient Diffusion on Region Manifolds: Recovering Small Objects with Compact CNN Representations”. In: *Proceedings of IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*. Honolulu, Hawaii, US, July 2017.
- [C102] Ronan Sicre, Yannis Avrithis, Ewa Kijak, and Frédéric Jurie. “Unsupervised part learning for visual recognition”. In: *Proceedings of IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*. Honolulu, Hawaii, US, July 2017.
- [C101] Ahmet Iscen, Giorgos Tolias, Yannis Avrithis, Teddy Furon, and Ondřej Chum. “Panorama to Panorama Matching for Location Recognition”. In: *Proceedings of ACM International Conference on Multimedia Retrieval (ICMR)*. Bucharest, Romania, June 2017.
- [C100] Yannis Avrithis, Ioannis Emiris, and Georgios Samaras. “High-Dimensional Visual Similarity Search: k-d Generalized Randomized Forests”. In: *Proceedings of the 33rd Computer Graphics International (CGI)*. ACM. Heraklion, Greece, June 2016, pp. 25–28.
- [C99] Yannis Avrithis, Yannis Kalantidis, Evangelos Anagnostopoulos, and Ioannis Emiris. “Web-scale image clustering revisited”. In: *Proceedings of International Conference on Computer Vision (ICCV) (Oral)*. Santiago, Chile, Dec. 2015.
- [C98] Nikos Papanelopoulos and Yannis Avrithis. “Planar shape decomposition made simple”. In: *Proceedings of British Machine Vision Conference (BMVC)*. Swansea, UK, Sept. 2015.
- [C97] Miaoqing Shi, Yannis Avrithis, and Hervé Jégou. “Early burst detection for memory-efficient image retrieval”. In: *Proceedings of IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*. Boston, MA, US, June 2015.
- [C96] Christos Varytimidis, Konstantinos Rapantzikos, Yannis Avrithis, and Stefanos Kollias. “Improving local features by dithering-based image sampling”. In: *Proceedings of Asian Conference on Computer Vision (ACCV)*. Singapore, Nov. 2014.

- [C95] Yannis Kalantidis and Yannis Avrithis. “Locally Optimized Product Quantization for Approximate Nearest Neighbor Search”. In: *Proceedings of IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*. Columbus, OH, US, June 2014.
- [C94] Yannis Avrithis. “Quantize and Conquer: A dimensionality-recursive solution to clustering, vector quantization, and image retrieval”. In: *Proceedings of International Conference on Computer Vision (ICCV)*. Sydney, Australia, Dec. 2013.
- [C93] Giorgos Tolias, Yannis Avrithis, and Hervé Jégou. “To aggregate or not to aggregate: selective match kernels for image search”. In: *Proceedings of International Conference on Computer Vision (ICCV) (Oral)*. Sydney, Australia, Dec. 2013.
- [C92] Christos Varytimidis, Konstantinos Rapantzikos, and Yannis Avrithis. “W $\alpha$ SH: Weighted  $\alpha$ -Shapes for Local Feature Detection”. In: *Proceedings of European Conference on Computer Vision (ECCV)*. Florence, Italy, Oct. 2012.
- [C91] Yannis Avrithis and Yannis Kalantidis. “Approximate Gaussian Mixtures for Large Scale Vocabularies”. In: *Proceedings of European Conference on Computer Vision (ECCV)*. Florence, Italy, Oct. 2012.
- [C90] Giorgos Tolias, Yannis Kalantidis, and Yannis Avrithis. “SymCity: Feature Selection by Symmetry for Large Scale Image Retrieval”. In: *Proceedings of ACM Multimedia Conference (ACM-MM) (Full paper)*. Nara, Japan: ACM, Oct. 2012.
- [C89] Giorgos Tolias and Yannis Avrithis. “Speeded-up, Relaxed Spatial Matching”. In: *Proceedings of International Conference on Computer Vision (ICCV)*. Barcelona, Spain, Nov. 2011.
- [C88] Yannis Avrithis and Konstantinos Rapantzikos. “The Medial Feature Detector: Stable Regions from Image Boundaries”. In: *Proceedings of International Conference on Computer Vision (ICCV)*. Barcelona, Spain, Nov. 2011.
- [C87] Yannis Kalantidis, Lluís Garcia Pueyo, Michele Trevisiol, Roelof van Zwol, and Yannis Avrithis. “Scalable Triangulation-based Logo Recognition”. In: *Proceedings of ACM International Conference on Multimedia Retrieval (ICMR)*. Trento, Italy, Apr. 2011.
- [C86] Yannis Avrithis, Yannis Kalantidis, Giorgos Tolias, and Evaggelos Spyrou. “Retrieving Landmark and Non-Landmark Images from Community Photo Collections”. In: *Proceedings of ACM Multimedia Conference (ACM-MM) (Full paper)*. Firenze, Italy, Oct. 2010.
- [C85] Yannis Avrithis, Giorgos Tolias, and Yannis Kalantidis. “Feature Map Hashing: Sub-linear Indexing of Appearance and Global Geometry”. In: *Proceedings of ACM Multimedia Conference (ACM-MM) (Full paper)*. Firenze, Italy, Oct. 2010.
- [C84] Konstantinos Rapantzikos, Yannis Avrithis, and Stefanos Kollias. “Detecting Regions from Single Scale Edges”. In: *Proceedings of International Workshop on Sign, Gesture and Activity (SGA), part of European Conference on Computer Vision (ECCV)*. Hersonissos, Crete, Greece, Sept. 2010.
- [C83] Konstantinos Rapantzikos, Yannis Avrithis, and Stefanos Kollias. “Dense saliency-based spatiotemporal feature points for action recognition”. In: *Proceedings of IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*. Miami, FL, US, June 2009.
- [C82] Georgios Evangelopoulos, Athanasia Zlatintsi, Georgios Skoumas, Konstantinos Rapantzikos, Alexandros Potamianos, Petros Maragos, and Yannis Avrithis. “Video event detection and summarization using audio, visual and text saliency”. In: *Proceedings of IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*. Taipei, Taiwan, Apr. 2009.
- [C81] Thanos Athanasiadis, Nikolaos Simou, Georgios Papadopoulos, Rachid Benmokhtar, Krishna Chandramouli, Vassilis Tzouvaras, Vasileios Mezaris, Marios Phinikettos, Yannis Avrithis, Yiannis Kompatsiaris, Benoit Huet, and Ebroul Izquierdo. “Integrating Image Segmentation and Classification for Fuzzy Knowledge-based Multimedia Indexing”. In: *Proceedings of 15th International Multimedia Modeling Conference (MMM)*. Sophia Antipolis, France, Jan. 2009, pp. 263–274.

- [C80] Evaggelos Spyrou, Giorgos Tolias, and Yannis Avrithis. "Large Scale Concept Detection in Video Using a Region Thesaurus". In: *Proceedings of 15th International Multimedia Modeling Conference (MMM)*. Sophia Antipolis, France, Jan. 2009.
- [C79] Spiros Nikolopoulos, Christina Lakka, Ioannis Kompatsiaris, Christos Varytimidis, Konstantinos Rapantzikos, and Yannis Avrithis. "Compound document analysis by fusing evidence across media". In: *Proceedings of 7th International Workshop on Content-Based Multimedia Indexing (CBMI)*. Chania, Greece, June 2009.
- [C78] Yannis Kalantidis, Giorgos Tolias, Evaggelos Spyrou, Phivos Mylonas, and Yannis Avrithis. "Visual Image Retrieval and Localization". In: *Proceedings of 7th International Workshop on Content-Based Multimedia Indexing (CBMI)*. Chania, Greece, June 2009.
- [C77] Georgios Evangelopoulos, Konstantinos Rapantzikos, Alexandros Potamianos, Petros Maragos, Athanasia Zlatintsi, and Yannis Avrithis. "Movie Summarization Based on Audiovisual Saliency Detection". In: *Proceedings of 15th International Conference on Image Processing (ICIP)*. San Diego, CA, US, Oct. 2008.
- [C76] Evaggelos Spyrou, Phivos Mylonas, and Yannis Avrithis. "Using Region Semantics And Visual Context For Scene Classification". In: *Proceedings of 1st Workshop on Multimedia Information Retrieval: New Trends and Challenges (MIR), part of International Conference on Image Processing (ICIP)*. San Diego, CA, US, Oct. 2008.
- [C75] Eric Galmar, Thanos Athanasiadis, Benoit Huet, and Yannis Avrithis. "Spatiotemporal Semantic Video Segmentation". In: *Proceedings of 10th International Workshop on Multimedia Signal Processing (MMSP)*. Cairns, Australia: IEEE, Oct. 2008.
- [C74] Petros Kapsalas, Konstantinos Rapantzikos, Anastasia Sofou, and Yannis Avrithis. "Regions Of Interest for Accurate Object Detection". In: *Proceedings of 6th International Workshop on Content-Based Multimedia Indexing (CBMI)*. London, UK, June 2008.
- [C73] Vicky Giannekou, Paraskevi Tzouveli, Yannis Avrithis, and Stefanos Kollias. "Affine invariant curve matching using normalization and curvature scale-space". In: *Proceedings of 6th International Workshop on Content-Based Multimedia Indexing (CBMI)*. London, UK, June 2008.
- [C72] Evaggelos Spyrou, Phivos Mylonas, and Yannis Avrithis. "A Visual Context Ontology for Multimedia High-Level Concept Detection". In: *Proceedings of 5th International Workshop in Modeling and Reasoning in Context (MRC)*. Delft, The Netherlands, June 2008.
- [C71] Evaggelos Spyrou, Giorgos Tolias, Phivos Mylonas, and Yannis Avrithis. "A Semantic Multimedia Analysis Approach Utilizing a Region Thesaurus and LSA". In: *Proceedings of 9th International Workshop on Image Analysis for Multimedia Interactive Services (WIAMIS)*. Klagenfurt, Austria, May 2008.
- [C70] Phivos Mylonas, Evaggelos Spyrou, and Yannis Avrithis. "High-Level Concept Detection based on Mid-level Semantic Information and Contextual Adaptation". In: *Proceedings of 2nd International Workshop on Semantic Media Adaptation and Personalization (SMAP)*. London, UK, Dec. 2007.
- [C69] Evaggelos Spyrou and Yannis Avrithis. "Keyframe Extraction using Local Visual Semantics in the form of a Region Thesaurus". In: *Proceedings of 2nd International Workshop on Semantic Media Adaptation and Personalization (SMAP)*. London, UK, Dec. 2007.
- [C68] Evaggelos Spyrou and Yannis Avrithis. "A Region Thesaurus Approach for High-Level Concept Detection in the Natural Disaster Domain". In: *Proceedings of 2nd International Conference on Semantics and Digital Media Technologies (SAMT)*. Genova, Italy, Dec. 2007.
- [C67] Phivos Mylonas, Evaggelos Spyrou, and Yannis Avrithis. "Enriching a context ontology with mid-level features for semantic multimedia analysis". In: *Proceedings of 1st Workshop on Multimedia Annotation and Retrieval enabled by Shared Ontologies (MARESO), part of International Conference on Semantics And Digital Media Technologies (SAMT)*. Genova, Italy, Dec. 2007.

- [C66] Phivos Mylonas, Nikolaos Simou, Vassilis Tzouvaras, and Yannis Avrithis. "Towards Semantic Multimedia Indexing by Classification and Reasoning on Textual Metadata". In: *Proceedings of Knowledge Acquisition from Multimedia Content Workshop (KAMC), part of International Conference on Semantics And Digital Media Technologies (SAMT)*. Genova, Italy, Dec. 2007.
- [C65] Konstantinos Rapantzikos, Georgios Evangelopoulos, Petros Maragos, and Yannis Avrithis. "An Audio-Visual Saliency Model for Movie Summarization". In: *Proceedings of IEEE International Workshop on Multimedia Signal Processing (MMSP)*. Crete, Greece, Oct. 2007.
- [C64] Evaggelos Spyrou, Phivos Mylonas, and Yannis Avrithis. "Semantic Multimedia Analysis based on Region Types and Visual Context". In: *Proceedings of 4th IFIP Conference on Artificial Intelligence Applications and Innovations (AIAI)*. Athens, Greece, Sept. 2007.
- [C63] Konstantinos Rapantzikos, Yannis Avrithis, and Stefanos Kollias. "SALIENShrink: Saliency-Based Wavelet Shrinkage". In: *Proceedings of 14th International Conference on Image Processing (ICIP)*. Vol. 3. San Antonio, TX, US, Sept. 2007, pp. 333–336.
- [C62] Konstantinos Rapantzikos, Yannis Avrithis, and Stefanos Kollias. "Spatiotemporal saliency for event detection and representation in the 3D Wavelet Domain: Potential in human action recognition". In: *Proceedings of ACM International Conference on Image and Video Retrieval (CIVR)*. Amsterdam, The Netherlands, July 2007, pp. 294–301.
- [C61] Phivos Mylonas and Yannis Avrithis. "Using Multiple Domain Visual Context in Image Analysis". In: *Proceedings of 8th International Workshop on Image Analysis for Multimedia Interactive Services (WIAMIS)*. Santorini, Greece, June 2007.
- [C60] Petr Berka, Thanos Athanasiadis, and Yannis Avrithis. "Rule-based Reasoning for Semantic Image Segmentation and Interpretation". In: *Poster & Demo Proceedings of 1st International Conference on Semantics And digital Media Technology (SAMT)*. Athens, Greece: CEUR-WS, Dec. 2006, pp. 39–40.
- [C59] Thanos Athanasiadis, Phivos Mylonas, and Yannis Avrithis. "A Context-based Region Labeling Approach for Semantic Image Segmentation". In: *Proceedings of 1st International Conference on Semantics And digital Media Technology (SAMT)*. Athens, Greece, Dec. 2006, pp. 212–225.
- [C58] Stamatia Dasiopoulou, Georgios Papadopoulos, Phivos Mylonas, Yannis Avrithis, and Ioannis Kompatsiaris. "Using Context and a Genetic Algorithm for Knowledge-Assisted Image Analysis". In: *Proceedings of 1st International Conference on Semantics And Digital Media Technology (SAMT)*. Athens, Greece, Dec. 2006.
- [C57] Evaggelos Spyrou, George Koumoulos, Yannis Avrithis, and Stefanos Kollias. "Using Local Region Semantics for Concept Detection in Video". In: *Proceedings of 1st International Conference on Semantics And digital Media Technology (SAMT)*. Athens, Greece, Dec. 2006.
- [C56] Phivos Mylonas, Thanos Athanasiadis, and Yannis Avrithis. "Image Analysis Using Domain Knowledge and Visual Context". In: *Proceedings of 13th International Conference on Systems, Signals and Image Processing (IWSSIP)*. Budapest, Hungary, Sept. 2006.
- [C55] Nicolas Tsapatsoulis, Konstantinos Rapantzikos, and Yannis Avrithis. "Priority Coding for Video-telephony Applications based on Visual Attention". In: *Proceedings of 2nd International Mobile Multimedia Communications Conference (MobiMedia)*. Alghero, Italy, Sept. 2006.
- [C54] David Vallet, Miriam Fernández, Pablo Castells, Phivos Mylonas, and Yannis Avrithis. "A contextual personalization approach based on ontological knowledge". In: *Proceedings of Contexts and Ontologies: Theory, Practice and Applications Workshop (CO), part of 17th European Conference on Artificial Intelligence (ECAI)*. Riva del Garda, Italy, Aug. 2006.
- [C53] David Vallet, Miriam Fernández, Pablo Castells, Phivos Mylonas, and Yannis Avrithis. "Personalized Information Retrieval in Context". In: *Proceedings of 3rd International Workshop on Modeling and Retrieval of Context (MRC), part of 21st National Conference on Artificial Intelligence (AAAI)*. Boston, MA, US, July 2006.

- [C52] Phivos Mylonas, David Vallet, Miriam Fernández, Pablo Castells, and Yannis Avrithis. "Ontology-based Personalization for Multimedia Content". In: *Proceedings of Semantic Web Personalization Workshop (SWP), part of 3rd European Semantic Web Conference (ESWC)*. Budva, Montenegro, June 2006.
- [C51] Paraskevi Tzouveli, Yannis Avrithis, and Stefanos Kollias. "Fast Video Object Tracking using Affine Invariant Normalization". In: *Proceedings of 3rd IFIP Conference on Artificial Intelligence Applications & Innovations (AIAI)*. Athens, Greece, June 2006.
- [C50] Thanos Athanasiadis, Yannis Avrithis, and Stefanos Kollias. "A Semantic Region Growing Approach in Image Segmentation and Annotation". In: *Proceedings of 1st International Workshop on Semantic Web Annotations for Multimedia (SWAMM), part of 15th World Wide Web Conference (WWW)*. Edinburgh, UK, May 2006.
- [C49] Phivos Mylonas, Thanos Athanasiadis, and Yannis Avrithis. "Improving Image Analysis using a Contextual Approach". In: *Proceedings of 7th International Workshop on Image Analysis for Multimedia Interactive Services (WIAMIS)*. Seoul, Korea, Apr. 2006.
- [C48] Evaggelos Spyrou, Giorgos Stamou, Yannis Avrithis, and Stefanos Kollias. "Fuzzy Support Vector Machines for Image Classification fusing MPEG-7 Visual Descriptors". In: *Proceedings of 2nd European Workshop on the Integration of Knowledge, Semantic, and Digital Media Techniques (EWIMT)*. London, UK, Nov. 2005.
- [C47] Thanos Athanasiadis, Vassilis Tzouvaras, Kosmas Petridis, Frederic Precioso, Yannis Avrithis, and Yiannis Kompatsiaris. "Using a Multimedia Ontology Infrastructure for Semantic Annotation of Multimedia Content". In: *Proceedings of 5th International Workshop on Knowledge Markup and Semantic Annotation, (SemAnnot), part of 4th International Semantic Web Conference (ISWC)*. Galway, Ireland: CEUR-WS, Nov. 2005, pp. 59–68.
- [C46] Kosmas Petridis, Frederic Precioso, Thanos Athanasiadis, Yannis Avrithis, and Yiannis Kompatsiaris. "Combined Domain Specific and Multimedia Ontologies for Image Understanding". In: *Proceedings of 28th German Conference on Artificial Intelligence (KI)*. Koblenz, Germany, Sept. 2005.
- [C45] Pablo Castells, Miriam Fernández, David Vallet, Phivos Mylonas, and Yannis Avrithis. "Self-Tuning Personalized Information Retrieval in an Ontology-Based Framework". In: *Proceedings of First IFIP WG 2.12 & WG 12.4 International Workshop on Web Semantics (SWWS)*. Agia Napa, Cyprus, Nov. 2005.
- [C44] Konstantinos Rapantzikos, Yannis Avrithis, and Stefanos Kollias. "On the use of spatiotemporal visual attention for video classification". In: *Proceedings of International Workshop on Very Low Bitrate Video Coding (VLBV)*. Sardinia, Italy, Sept. 2005.
- [C43] Nikolaos Simou, Carsten Saathoff, Stamatia Dasiopoulou, Evaggelos Spyrou, Nicolas Voisine, Vassilis Tzouvaras, Ioannis Kompatsiaris, Yannis Avrithis, and Steffen Staab. "An Ontology Infrastructure for Multimedia Reasoning". In: *Proceedings of International Workshop Very Low Bitrate Video Coding (VLBV)*. Sardinia, Italy, Sept. 2005.
- [C42] David Vallet, Phivos Mylonas, Miguel A. Corella, José M. Fuentes, Pablo Castells, and Yannis Avrithis. "A Semantically-Enhanced Personalization Framework for Knowledge-Driven Media Services". In: *Proceedings of IADIS International Conference on WWW / Internet (ICWI)*. Lisbon, Portugal, Oct. 2005.
- [C41] Evaggelos Spyrou, Hervé Le Borgne, Theofilos Mailis, Eddie Cooke, Yannis Avrithis, and Noel O'Connor. "Fusing MPEG-7 visual descriptors for image classification". In: *Proceedings of International Conference on Artificial Neural Networks (ICANN)*. Warsaw, Poland, Sept. 2005.
- [C40] Phivos Mylonas and Yannis Avrithis. "Context modelling for multimedia analysis". In: *Proceedings of 5th International and Interdisciplinary Conference on Modeling and Using Context (CONTEXT)*. Paris, France, July 2005.
- [C39] Konstantinos Rapantzikos and Yannis Avrithis. "An enhanced spatiotemporal visual attention model for sports video analysis". In: *Proceedings of 4th International Workshop on Content-Based Multimedia Indexing (CBMI)*. Riga, Latvia, June 2005.



- [C38] Stephan Bloehdorn, Kosmas Petridis, Carsten Saathoff, Nikolaos Simou, Vassilis Tzouvaras, Yannis Avrithis, Siegfried Handschuh, Yiannis Kompatsiaris, Steffen Staab, and Michael G. Strintzis. "Semantic Annotation of Images and Videos for Multimedia Analysis". In: *Proceedings of 2nd European Semantic Web Conference (ESWC)*. Heraklion, Greece, May 2005.
- [C37] Nikolaos Simou, Vassilis Tzouvaras, Yannis Avrithis, Giorgos Stamou, and Stefanos Kollias. "A Visual Descriptor Ontology for Multimedia Reasoning". In: *Proceedings of 6th International Workshop on Image Analysis for Multimedia Interactive Services (WIAMIS)*. Montreux, Switzerland, Apr. 2005.
- [C36] Nicolas Voisine, Stamatia Dasiopoulou, Vasileios Mezaris, Evaggelos Spyrou, Thanos Athanasiadis, Ioannis Kompatsiaris, Yannis Avrithis, and Michael G. Strintzis. "Knowledge-Assisted Video Analysis Using A Genetic Algorithm". In: *Proceedings of 6th International Workshop on Image Analysis for Multimedia Interactive Services (WIAMIS)*. Montreux, Switzerland, Apr. 2005.
- [C35] Konstantinos Rapantzikos, Yannis Avrithis, and Stefanos Kollias. "Handling Uncertainty in Video Analysis With Spatiotemporal Visual Attention". In: *Proceedings of IEEE International Conference on Fuzzy Systems (FUZZ-IEEE)*. Reno, Nevada, May 2005, pp. 213–217.
- [C34] Manolis Wallace, Thanos Athanasiadis, Yannis Avrithis, Giorgos Stamou, and Stefanos Kollias. "A mediator system for hetero-lingual audiovisual content". In: *Proceedings of International Conference on Multi-platform e-Publishing (MPEP)*. Athens, Greece, Nov. 2004.
- [C33] Paola Hobson, Tony May, Jolanda Tromp, Yiannis Kompatsiaris, and Yannis Avrithis. "Achieving Integration of Knowledge and Content Technologies: the aceMedia Project". In: *Proceedings of European Workshop on the Integration of Knowledge, Semantics and Digital Media Technology (EWIMT)*. London, U.K., Nov. 2004.
- [C32] Kosmas Petridis, Ioannis Kompatsiaris, Michael G. Strintzis, Stephan Bloehdorn, Siegfried Handschuh, Steffen Staab, Nikolaos Simou, Vassilis Tzouvaras, and Yannis Avrithis. "Knowledge Representation for Semantic Multimedia Content Analysis and Reasoning". In: *Proceedings of European Workshop on the Integration of Knowledge, Semantics and Digital Media Technology (EWIMT)*. London, U.K., Nov. 2004.
- [C31] Konstantinos Rapantzikos, Nicolas Tsapatsoulis, and Yannis Avrithis. "Spatiotemporal Visual Attention Architecture for Video Analysis". In: *Proceedings of IEEE International Workshop On Multimedia Signal Processing (MMSP)*. Siena, Italy, Sept. 2004, pp. 83–86.
- [C30] Manolis Wallace and Yannis Avrithis. "Fuzzy Relational Knowledge Representation and Context in the Service of Semantic Information Retrieval". In: *Proceedings of IEEE International Conference on Fuzzy Systems (FUZZ-IEEE)*. Budapest, Hungary, July 2004.
- [C29] Thanos Athanasiadis and Yannis Avrithis. "Adding Semantics to Audiovisual Content: The FAETHON Project". In: *Proceedings of 3rd International Conference for Image and Video Retrieval (CIVR)*. Dublin, Ireland, July 2004, pp. 665–673.
- [C28] Manolis Wallace, Thanos Athanasiadis, and Yannis Avrithis. "Knowledge Assisted Analysis and Categorization for Semantic Video Retrieval". In: *Proceedings of 3rd International Conference for Image and Video Retrieval (CIVR)*. Dublin, Ireland, July 2004, pp. 555–563.
- [C27] Ioannis Kompatsiaris, Yannis Avrithis, Paola Hobson, and Michael G. Strintzis. "Integrating Knowledge, Semantics and Content for User-Centred Intelligent Media Services: the aceMedia Project". In: *Proceedings of Workshop on Image Analysis for Multimedia Interactive Services (WIAMIS)*. Lisboa, Portugal, Apr. 2004.
- [C26] Paraskevi Tzouveli, Georgios Andreou, Gabriel Tsechpenakis, Yannis Avrithis, and Stefanos Kollias. "Intelligent Visual Descriptor Extraction from Video Sequences". In: *Proceedings of 1st International Workshop on Adaptive Multimedia Retrieval (AMR)*. Hamburg, Germany, Sept. 2003.

- [C25] Manolis Wallace, Giorgos Akrivas, Phivos Mylonas, Yannis Avrithis, and Stefanos Kollias. "Using context and fuzzy relations to interpret multimedia content". In: *Proceedings of 3rd International Workshop on Content-Based Multimedia Indexing (CBMI)*. Rennes, France, Sept. 2003.
- [C24] Yannis Avrithis, Giorgos Stamou, Manolis Wallace, Ferran Marques, Philippe Salembier, Xavier Giro, Werner Haas, Heribert Vallant, and Michael Zufferey. "Unified Access to Heterogeneous Audiovisual Archives". In: *Proceedings of 3rd International Conference on Knowledge Management (IKNOW)*. Graz, Austria, July 2003.
- [C23] Giorgos Stamou, Yannis Avrithis, Stefanos Kollias, Ferran Marques, and Philippe Salembier. "Semantic Unification of Heterogeneous Multimedia Archives". In: *Proceedings of 4th European Workshop on Image Analysis for Multimedia Interactive Services (WIAMIS)*. London, UK, Apr. 2003.
- [C22] Yannis Avrithis, Giorgos Stamou, Anastasios Delopoulos, and Stefanos Kollias. "Intelligent Semantic Access to Audiovisual Content". In: *Proceedings of 2nd Hellenic Conference on Artificial Intelligence (SETN)*. Thessaloniki, Greece, Apr. 2002.
- [C21] Giorgos Akrivas, Spyros Ioannou, Elias Karakoulakis, Kostas Karpouzis, Yannis Avrithis, Anastasios Delopoulos, Stefanos Kollias, Iraklis Varlamis, and Michalis Vaziriannis. "An Intelligent System for Retrieval and Mining of Audiovisual Material Based on the MPEG-7 Description Schemes". In: *Proceedings of European Symposium on Intelligent Technologies, Hybrid Systems and their implementation on Smart Adaptive Systems (EUNITE)*. Tenerife, Spain, Dec. 2001.
- [C20] Yannis Avrithis and Giorgos Stamou. "FAETHON: Unified Intelligent Access to Heterogeneous Audiovisual Content". In: *Proceedings of International Workshop on Very Low Bitrate Video Coding (VLBV)*. Athens, Greece, Oct. 2001.
- [C19] Anastasios Delopoulos, Stefanos Kollias, Yannis Avrithis, Werner Haas, and Kurt Majcen. "Unified Intelligent Access to Heterogeneous Audiovisual Content". In: *Proceedings of 2nd International Workshop in Content-Based Multimedia Indexing (CBMI)*. Brescia, Italy, Sept. 2001.
- [C18] Yannis Avrithis, Yiannis Xirouhakis, and Stefanos Kollias. "Affine-Invariant Curve Normalization for Shape-Based Retrieval". In: *Proceedings of 15th International Conference on Pattern Recognition (ICPR)*. Barcelona, Spain, Sept. 2000, pp. 1015–1018.
- [C17] Nicolas Tsapatsoulis, Yannis Avrithis, and Stefanos Kollias. "Efficient Face Detection for Multimedia Applications". In: *Proceedings of the International Conference on Image Processing (ICIP)*. Vancouver, BC, Canada, Sept. 2000.
- [C16] Yannis Avrithis, Nicolas Tsapatsoulis, and Stefanos Kollias. "Color-Based Retrieval of Facial Images". In: *Proceedings of 10th European Signal Processing Conference (EUSIPCO)*. Tampere, Finland, Sept. 2000, pp. 1397–1400.
- [C15] Yannis Avrithis, Nicolas Tsapatsoulis, and Stefanos Kollias. "Broadcast News Parsing Using Visual Cues: A Robust Face Detection Approach". In: *Proceedings of IEEE International Conference on Multimedia and Expo (ICME)*. New York City, NY, US, July 2000, pp. 1469–1472.
- [C14] Nikolaos Doulamis, Anastasios Doulamis, Yannis Avrithis, and Stefanos Kollias. "A stochastic framework for optimal key frame extraction from MPEG video databases". In: *Proceedings of IEEE International Workshop on Multimedia Signal Processing (MMSP)*. Copenhagen, Denmark, Sept. 1999, pp. 141–146.
- [C13] Nikolaos Doulamis, Anastasios Doulamis, Yannis Avrithis, Klimis Ntalianis, and Stefanos Kollias. "An Optimal Framework for Summarization of Stereoscopic Video Sequences". In: *Proceedings of International Workshop on Synthetic-Natural Hybrid Coding and Three Dimensional Imaging (IWSNHC3DI)*. Santorini, Greece, Sept. 1999.
- [C12] Nicolas Tsapatsoulis, Yannis Avrithis, and Stefanos Kollias. "On the use of Radon Transform for Facial Expression Recognition". In: *Proceedings of 5th International Conference on Information Systems Analysis and Synthesis (ISAS)*. Orlando, FL, US, Aug. 1999.

- [C11] Yannis Avrithis, Yiannis Xirouhakis, and Stefanos Kollias. “Affine Invariant Representation and Classification of Object Contours for Image and Video Retrieval”. In: *Proceedings of 3rd IEEE/IMACS World Multiconference on Circuits, Systems, Communications and Computers (CSCC)*. Athens, Greece, July 1999.
- [C10] Anastasios Doulamis, Yannis Avrithis, Nikolaos Doulamis, and Stefanos Kollias. “Interactive Content-Based Retrieval in Video Databases Using Fuzzy Classification and Relevance Feedback”. In: *Proceedings of IEEE International Conference on Multimedia Computing and Systems (ICMSC)*. Florence, Italy, June 1999, pp. 954–958.
- [C9] Yiannis Xirouhakis, Yannis Avrithis, and Stefanos Kollias. “Image Retrieval and Classification Using Affine Invariant B-Spline Representation and Neural Networks”. In: *Proceedings of IEE Colloquium on Neural Nets and Multimedia (ICNNM)*. London, UK, Oct. 1998, pp. 4/1–4/4.
- [C8] Yannis Avrithis, Anastasios Doulamis, Nikolaos Doulamis, and Stefanos Kollias. “An Adaptive Approach to Video Indexing and Retrieval Using Fuzzy Classification”. In: *Proceedings of International Conference on Very Low Bitrate Video Coding (VLBV)*. Urbana, IL, US, Oct. 1998.
- [C7] Nikolaos Doulamis, Anastasios Doulamis, Yannis Avrithis, and Stefanos Kollias. “Video Content Representation Using Optimal Extraction of Frames and Scenes”. In: *Proceedings of IEEE International Conference on Image Processing (ICIP)*. Chicago, IL, US, Oct. 1998, pp. 875–879.
- [C6] Yannis Avrithis, Anastasios Delopoulos, and Grigorios Papageorgiou. “Ultrasonic Array Imaging Using CDMA Techniques”. In: *Proceedings of IX European Signal Processing Conference (EUSIPCO)*. Rhodes, Greece, Sept. 1998.
- [C5] Anastasios Doulamis, Yannis Avrithis, Nikolaos Doulamis, and Stefanos Kollias. “A Genetic Algorithm for Efficient Video Content Representation”. In: *Proceedings of IMACS/IFAC International Symposium on Soft Computing in Engineering Applications (SOFTCOM)*. Athens, Greece, June 1998.
- [C4] Yannis Avrithis, Nikolaos Doulamis, Anastasios Doulamis, and Stefanos Kollias. “Efficient Content Representation in MPEG Video Databases”. In: *Proceedings of IEEE Workshop of Content-Based Access of Image and Video Libraries (CBAIVL), part of IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*. Santa Barbara, CA, US, June 1998, pp. 91–95.
- [C3] Yannis Avrithis and Stefanos Kollias. “Fuzzy Image Classification Using Multiresolution Neural Networks with Applications to Remote Sensing”. In: *Proceedings of 13th International Conference on Digital Signal Processing (DSP)*. Santorini, Greece, July 1997, pp. 261–264.
- [C2] Anastasios Doulamis, Yannis Avrithis, Nikolaos Doulamis, and Stefanos Kollias. “Indexing and Retrieval of the Most Characteristic Frames / Scenes in Video Databases”. In: *Proceedings of Workshop on Image Analysis for Multimedia Interactive Services (WIAMIS)*. Louvain-la-Neuve, Belgium, June 1997, pp. 105–110.
- [C1] Yannis Avrithis, Anastasios Delopoulos, and Stefanos Kollias. “An Efficient Scheme for Invariant Optical Character Recognition Using Triple Correlations”. In: *Proceedings of International Conference on Digital Signal Processing (DSP)*. Nicosia, Cyprus, July 1993.

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## Technical reports

- [R43] Deniz Engin and Yannis Avrithis. “Zero-Shot and Few-Shot Video Question Answering with Multi-Modal Prompts”. In: *arXiv preprint arXiv:2309.15915* (Sept. 2023).
- [R42] Bill Psomas, Ioannis Kakogeorgiou, Konstantinos Karantzas, and Yannis Avrithis. “Keep It SimPool: Who Said Supervised Transformers Suffer from Attention Deficit?” In: *arXiv preprint arXiv:2309.06891* (Sept. 2023).
- [R41] Michalis Lazarou, Yannis Avrithis, and Tania Stathaki. “Adaptive manifold for imbalanced transductive few-shot learning”. In: *arXiv preprint arXiv:2304.14281* (Apr. 2023).

- [R40] Konstantinos Tertikas, Despoina Paschalidou, Boxiao Pan, Jeong Joon Park, Mikaela Angelina Uy, Ioannis Emiris, Yannis Avrithis, and Leonidas Guibas. “PartNeRF: Generating Part-Aware Editable 3D Shapes without 3D Supervision”. In: *arXiv preprint arXiv:2303.09554* (Mar. 2023).
- [R39] Hanwei Zhang, Felipe Torres, Ronan Sicre, Yannis Avrithis, and Stephane Ayache. “Opti-CAM: Optimizing saliency maps for interpretability”. In: *arXiv preprint arXiv:2301.07002* (Jan. 2023).
- [R38] Chull Hwan Song, Jooyoung Yoon, Shunghyun Choi, and Yannis Avrithis. “Boosting vision transformers for image retrieval”. In: *arXiv preprint arXiv:2210.11909* (Oct. 2022).
- [R37] Shashanka Venkataramanan, Ewa Kijak, Laurent Amsaleg, and Yannis Avrithis. “Teach me how to Interpolate a Myriad of Embeddings”. In: *arXiv preprint arXiv:2206.14868* (June 2022).
- [R36] Ioannis Kakogeorgiou, Spyros Gidaris, Bill Psomas, Yannis Avrithis, Andrei Bursuc, Konstantinos Karantzas, and Nikos Komodakis. “What to Hide from Your Students: Attention-Guided Masked Image Modeling”. In: *arXiv preprint arXiv:2203.12719* (July 2022).
- [R35] Chull Hwan Song, Hye Joo Han, and Yannis Avrithis. “All the attention you need: Global-local, spatial-channel attention for image retrieval”. In: *arXiv preprint arXiv:2107.08000* (July 2021).
- [R34] Michalis Lazarou, Tania Stathaki, and Yannis Avrithis. “Tensor feature hallucination for few-shot learning”. In: *arXiv preprint arXiv:2106.05321* (June 2021).
- [R33] Shashanka Venkataramanan, Bill Psomas, Yannis Avrithis, Ewa Kijak, Laurent Amsaleg, and Konstantinos Karantzas. “It Takes Two to Tango: Mixup for Deep Metric Learning”. In: *arXiv preprint arXiv:2106.04990* (June 2021).
- [R32] Michalis Lazarou, Yannis Avrithis, and Tania Stathaki. “Few-shot learning via tensor hallucination”. In: *arXiv preprint arXiv:2104.09467* (Apr. 2021).
- [R31] Shashanka Venkataramanan, Yannis Avrithis, Ewa Kijak, and Laurent Amsaleg. “Align-Mixup: Improving representations by interpolating aligned features”. In: *arXiv preprint arXiv:2103.15375* (Mar. 2021).
- [R30] Deniz Engin, Ngoc Q. K. Duong, François Schnitzler, and Yannis Avrithis. “On the hidden treasure of dialog in video question answering”. In: *arXiv preprint arXiv:2103.14517* (Mar. 2021).
- [R29] Yann Lifchitz, Yannis Avrithis, and Sylvaine Picard. “Local propagation for few-shot learning”. In: *arXiv preprint arXiv:2101.01480* (Jan. 2021).
- [R28] Michalis Lazarou, Yannis Avrithis, and Tania Stathaki. “Iterative label cleaning for transductive and semi-supervised few-shot learning”. In: *arXiv preprint arXiv:2012.07962* (Dec. 2020).
- [R27] Mateusz Budnik and Yannis Avrithis. “Asymmetric metric learning for knowledge transfer”. In: *arXiv preprint arXiv:2006.16331* (June 2020).
- [R26] Yann Lifchitz, Yannis Avrithis, and Sylvaine Picard. “Few-Shot Few-Shot Learning and the role of Spatial Attention”. In: *arXiv preprint arXiv:2002.07522* (Feb. 2020).
- [R25] Hanwei Zhang, Yannis Avrithis, Teddy Furon, and Laurent Amsaleg. “Walking on the Edge: Fast, Low-Distortion Adversarial Examples”. In: *arXiv preprint arXiv:1912.02153* (Dec. 2019).
- [R24] Zhaohui Yang, Miaoqing Shi, Yannis Avrithis, Chao Xu, and Vittorio Ferrari. “Training Object Detectors from Few Weakly-Labeled and Many Unlabeled Images”. In: *arXiv preprint arXiv:1912.00384* (Dec. 2019).
- [R23] Oriane Siméoni, Mateusz Budnik, Yannis Avrithis, and Guillaume Gravier. “Rethinking deep active learning: Using unlabeled data at model training”. In: *arXiv preprint arXiv:1911.08177* (Nov. 2019).

- [R22] Ahmet Iscen, Giorgos Tolias, Yannis Avrithis, Ondřej Chum, and Cordelia Schmid. “Graph convolutional networks for learning with few clean and many noisy labels”. In: *arXiv preprint arXiv:1910.00324* (Oct. 2019).
- [R21] Oriane Siméoni, Yannis Avrithis, and Ondřej Chum. “Local Features and Visual Words Emerge in Activations”. In: *arXiv preprint arXiv:1905.06358* (May 2019).
- [R20] Ahmet Iscen, Giorgos Tolias, Yannis Avrithis, and Ondřej Chum. “Label propagation for Deep Semi-supervised Learning”. In: *arXiv preprint arXiv:1904.04717* (Apr. 2019).
- [R19] Hanwei Zhang, Yannis Avrithis, Teddy Furon, and Laurent Amsaleg. “Smooth Adversarial Examples”. In: *arXiv preprint arXiv:1903.11862* (Mar. 2019).
- [R18] Yann Lifchitz, Yannis Avrithis, Sylvaine Picard, and Andrei Bursuc. “Dense Classification and Implanting for Few-Shot Learning”. In: *arXiv preprint arXiv:1903.05050* (Mar. 2019).
- [R17] Ahmet Iscen, Yannis Avrithis, Giorgos Tolias, Teddy Furon, and Ondřej Chum. “Hybrid Diffusion: Spectral-Temporal Graph Filtering for Manifold Ranking”. In: *arXiv preprint arXiv:1807.08692* (July 2018).
- [R16] Filip Radenović, Ahmet Iscen, Giorgos Tolias, Yannis Avrithis, and Ondřej Chum. “Revisiting Oxford and Paris: Large-Scale Image Retrieval Benchmarking”. In: *arXiv preprint arXiv:1803.11285* (Mar. 2018).
- [R15] Ahmet Iscen, Giorgos Tolias, Yannis Avrithis, and Ondřej Chum. “Mining on Manifolds: Metric Learning without Labels”. In: *arXiv preprint arXiv:1803.11095* (Mar. 2018).
- [R14] Oriane Siméoni, Ahmet Iscen, Giorgos Tolias, Yannis Avrithis, and Ondřej Chum. “Unsupervised object discovery for instance recognition”. In: *arXiv preprint arXiv:1709.04725* (Sept. 2018).
- [R13] Ahmet Iscen, Giorgos Tolias, Yannis Avrithis, Teddy Furon, and Ondřej Chum. “Panorama to panorama matching for location recognition”. In: *arXiv preprint arXiv:1704.06591* (Apr. 2017).
- [R12] Ronan Sicre, Yannis Avrithis, Ewa Kijak, and Frédéric Jurie. “Unsupervised part learning for visual recognition”. In: *arXiv preprint arXiv:1704.03755* (Apr. 2017).
- [R11] Ahmet Iscen, Yannis Avrithis, Giorgos Tolias, Teddy Furon, and Ondřej Chum. “Fast Spectral Ranking for Similarity Search”. In: *arXiv preprint arXiv:1703.06935* (Mar. 2017).
- [R10] Ahmet Iscen, Giorgos Tolias, Yannis Avrithis, Teddy Furon, and Ondřej Chum. “Efficient Diffusion on Region Manifolds: Recovering Small Objects with Compact CNN Representations”. In: *arXiv preprint arXiv:1611.05113* (Nov. 2016).
- [R9] Ronan Sicre, Julien Rabin, Yannis Avrithis, Teddy Furon, and Frédéric Jurie. “Automatic Discovery of Discriminative Parts As a Quadratic Assignment Problem”. In: *arXiv preprint arXiv:1611.04413* (Nov. 2016).
- [R8] Yannis Avrithis, Ioannis Emiris, and Georgios Samaras. “High-Dimensional Approximate Nearest Neighbor: k-d Generalized Randomized Forests”. In: *arXiv preprint arXiv:1603.09596* (Mar. 2016).
- [R7] Giorgos Tolias, Evaggelos Spyrou, and Yannis Avrithis. “K-Space at TRECVID 2008”. In: *Proceedings of 6th TRECVID Workshop*. Gaithersburg, USA, Nov. 2008.
- [R6] Giorgos Tolias, Evaggelos Spyrou, Petros Kapsalas, and Yannis Avrithis. “COST292 experimental framework for TRECVID 2008”. In: *Proceedings of 6th TRECVID Workshop*. Gaithersburg, USA, Nov. 2008.
- [R5] Evaggelos Spyrou and Yannis Avrithis. “K-Space at TRECVID 2007”. In: *Proceedings of 5th TRECVID Workshop*. Gaithersburg, USA, Nov. 2007.
- [R4] Evaggelos Spyrou, Petros Kapsalas, Giorgos Tolias, Phivos Mylonas, and Yannis Avrithis. “The COST292 experimental framework for TRECVID 2007”. In: *Proceedings of 5th TRECVID Workshop*. Gaithersburg, USA, Nov. 2007.
- [R3] Evaggelos Spyrou, George Koumoulos, and Yannis Avrithis. “K-Space at TRECVID 2006”. In: *Proceedings of 4th TRECVID Workshop*. Gaithersburg, USA, Nov. 2006.



- [R2] Evaggelos Spyrou, George Koumoulos, and Yannis Avrithis. “COST292 experimental framework for TRECVID 2006”. In: *Proceedings of 4th TRECVID Workshop*. Gaithersburg, USA, Nov. 2006.
- [R1] Gabriel Tsechpenakis, Yannis Avrithis, and Stefanos Kollias. *Verification Report of Core Experiment on Fast Block-Matching Motion Estimation using Advanced Diamond Zonal Search with Embedded Radar*. Tech. rep. MPEG99/M5116. ISO/IEC JTC1/SC29/WG11, Oct. 1999.

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## Book chapters

- [B8] Konstantinos Rapantzikos, Yannis Avrithis, and Stefanos Kollias. “Vision, Attention Control, and Goals Creation System”. In: *Perception-Action Cycle: Models, Architectures and Hardware*. Ed. by V. Cutsuridis, A. Hussain, and J.G. Taylor. Springer, 2011, pp. 363–386.
- [B7] Thanos Athanasiadis, Phivos Mylonas, Georgios Papadopoulos, Vasileios Mezaris, Yannis Avrithis, Ioannis Kompatsiaris, and Michael G. Strintzis. “Knowledge Driven Segmentation and Classification”. In: *Multimedia Semantics: Metadata, Analysis and Interaction*. Ed. by R. Troncy, B. Huet, and S. Schenk. Wiley, 2009, pp. 163–181.
- [B6] Georgios Evangelopoulos, Konstantinos Rapantzikos, Petros Maragos, Yannis Avrithis, and Alexandros Potamianos. “Audiovisual Attention Modeling and Salient Event Detection”. In: *Multimodal Processing and Interaction: Audio, Video, Text*. Ed. by P. Maragos, A. Potamianos, and P. Gros. Springer, 2008, pp. 179–199.
- [B5] Stamatia Dasiopoulou, Carsten Saathoff, Phivos Mylonas, Yannis Avrithis, Yiannis Kompatsiaris, and Steffen Staab. “Introducing Context and Reasoning in Visual Content Analysis: An Ontology-based Framework”. In: *Semantic Multimedia and Ontologies: Theory and Applications*. Ed. by Y. Kompatsiaris and P. Hobson. 1st. Springer, Jan. 2008, pp. 99–122. ISBN: 978-1-84800-075-9.
- [B4] Stamatia Dasiopoulou, Evaggelos Spyrou, Yannis Avrithis, Yiannis Kompatsiaris, and Michael G. Strintzis. “Semantic Processing of Color Images”. In: *Color Image Processing: Emerging Applications*. Ed. by R. Lukac and K.N. Plataniotis. CRC Press, 2006, pp. 259–284.
- [B3] Manolis Wallace, Phivos Mylonas, Giorgos Akrivas, Yannis Avrithis, and Stefanos Kollias. “Automatic thematic categorization of multimedia documents using ontological information and fuzzy algebra”. In: *Soft Computing in Ontologies and Semantic Web*. Ed. by Z. Ma. Vol. 204. Springer, 2006, pp. 247–272.
- [B2] Manolis Wallace, Yannis Avrithis, Giorgos Stamou, and Stefanos Kollias. “Knowledge-Based Multimedia Content Indexing and Retrieval”. In: *Multimedia Content and Semantic Web: Methods, Standards and Tools*. Ed. by G. Stamou and S. Kollias. Wiley, Aug. 2005, pp. 299–338.
- [B1] Spyros Ioannou, Yannis Avrithis, Giorgos Stamou, and Stefanos Kollias. “Fuzzy Data Fusion For Multiple Cue Image And Video Segmentation”. In: *Fuzzy Technologies and Applications*. Ed. by E. Kerre. Springer, May 2002, pp. 195–215.