Yannis Avrithis

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Summary

Dr. Yannis Avrithis is a research scientist in LinkMedia team of Inria Rennes–Bretagne Atlantique, carrying out research on computer vision and machine learning. Before that he was 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 PhD and Diploma degrees from NTUA and MSc degree from Imperial College, University of London, UK. He has been involved in 16 European, 5 French and 10 Greek research projects, he has co-supervised 12 Ph.D. theses and 16 Diploma theses, and he has published 3 theses, 3 edited volumes, 28 articles in journals, 112 in conferences and workshops, 8 book chapters and 21 technical reports in the above fields. He has contributed to the organization of 23 conferences and workshops, and is a reviewer in 15 scientific journals and 15 conferences. He is a member of IEEE, 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

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

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

2016– **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, Panepistimioupolis, 157 84 Ilissia, Greece.
2014–	**Scientific Advisor.** Odd Concepts Inc., 147-2 Suite 1201 Michelan 147 Bldg, Gangnam-gu, Seoul, Korea.
2001–2014	**Senior Researcher.** *Image, Video and Multimedia Systems Laboratory*, National Technical University of Athens, 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*, National Technical University of Athens, 9 Iroon Polytechniou Str., 157 73 Athens, Greece.

Teaching / training activities

2019-	**Visiting Professor.** *Computer Vision [CV]*, Interdisciplinary postgraduate program Information Technologies in Medicine and Biology (ITMB), National and Kapodistrian University of Athens (NKUA), Greece.
2018	**Instructor.** *Seminar: Deep Learning for Computer Vision [DLCV]*, Interdisciplinary postgraguate program: Information Technologies in Medicine and Biology (ITMB), National and Kapodistrian University of Athens (NKUA), Athens, Greece, May 10-11, 2018.
2017–	**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

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 (ΕρΓΑ), 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 (ΕρΓΑ), National and Kapodistrian University of Athens (NKUA), Greece.
10/2014	**Image retrieval, vector quantization and nearest neighbor search.** *In μ-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.

Ph.D. students / co-supervision

2018–	*Yann Lifchitz.* Few-shot learning for object recognition in aerial images.
2017–	*Hanwei Zhang.* Deep learning in adversarial contexts.
2016–	*Oriane Siméoni.* Invariance and supervision in visual learning.
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	*Evaggelos Spyrou.* Semantic search of audiovisual content using knowledge.
2004–2009	*Thanos Athanasiadis.* Knowledge technologies and access to audiovisual information.
2003–2008	*Konstantinos Rapantzikos.* 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.

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

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	*Antonis Makrimallis.* Person Detection Using Histograms of Oriented Gradients.
2005–2006	*Vicky Giannekou.* Image Matching by Shape Analysis.
2004–2005	*George Koumoulos.* Image Sequence Summarization—Shot Detection and Key Frame Selection.

Research grants [European]

2020–2022	*Researcher.* 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.* ANR-2019-114902, 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.

Professional activities

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.
2009–2014	*Associate Editor.* EURASIP Journal on Image and Video Processing [JIVP].
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.

Reviewer in journals

2014	ACM Computing Surveys [CSUR]
2012	Elsevier: Image and Vision Computing [IVC]
2008–	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

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]

Publications

Theses

[T3] Y. Avrithis. "Video Sequence Analysis for Content Description, Summarization and Content-Based Retrieval". PhD thesis. Greece: School of Electrical and Computer Engineering; National Technical University of Athens (NTUA), Feb. 2001.

[T2] Y. Avrithis. "Investigating the Capacity of a Cellular CDMA System". MA thesis. UK: Department of Electrical, Electronic Engineering; Imperial College of Science, Technology, and Medicine, University of London (IC), Oct. 1994.

[T1] Y. Avrithis. "Fuzzy Logic Processor for Control Systems". MA thesis. Greece: School of Electrical and Computer Engineering; National Technical University of Athens (NTUA), Sept. 1993.

Edited volumes

[V3] B. Huet, A.F. Smeaton, K. Mayer-Patel, and Y. Avrithis, eds. *Advances in Multimedia Modeling*. Vol. 5371. Lecture Notes in Computer Science (LNCS). Springer, Jan. 2009. ISBN: 978-3-540-92891-1.

[V2] B. Falcidieno, M. Spagnuolo, Y. Avrithis, I. Kompatsiaris, and P. Buitelaar, eds. *Semantic Multimedia*. Vol. 4816. Lecture Notes in Computer Science (LNCS). Springer, Dec. 2007. ISBN: 978-3-540-77033-6.

[V1] Y. Avrithis, Y. Kompatsiaris, S Staab, and N. O'Connor, eds. *Semantic Multimedia*. 1st. Vol. 4306. Lecture Notes in Computer Science (LNCS). Springer, Dec. 2006. ISBN: 978-3-540-49335-8.

Journal articles

[J28] O. Siméoni, A. Iscen, G. Tolias, Y. Avrithis, and O. Chum. "Graph-based Particular Object Discovery". In: *Machine Vision and Applications (MVA)* 30.2 (Mar. 2019), pp. 243–254.

[J27] N. Papanelopoulos, Y. Avrithis, and S. Kollias. "Revisiting the Medial Axis for Planar Shape Decomposition". In: *Computer Vision and Image Understanding (CVIU)* 179 (Feb. 2019), pp. 66–78.

[J26] C. Varytimidis, K. Rapantzikos, Y. Avrithis, and S. Kollias. "α-shapes for local feature detection". In: *Pattern Recognition (PR)* 50.1 (Feb. 2016), pp. 56–73.

[J25] G. Tolias, Y. Avrithis, and H. 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] C. Varytimidis, K. Rapantzikos, Y. Avrithis, and S. Kollias. "Dithering-based Sampling and Weighted α-shapes for Local Feature Detection". In: *IPSJ Transactions on Computer Vision and Applications (CVA)* 7.1 (Dec. 2015), pp. 189–200.

[J23] G. Tolias, Y. Kalantidis, Y. Avrithis, and S. Kollias. "Towards large-scale geometry indexing by feature selection". In: *Computer Vision and Image Understanding (CVIU)* 120 (2014), pp. 31–45.

[J22] Y. Avrithis and G. 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]   G. Evangelopoulos, A. Zlatintsi, A. Potamianos, P. Maragos, K. Rapantzikos, G. Skoumas, and Y. 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]   K. Rapantzikos, Y. Avrithis, and S. 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]   Y. Kalantidis, G. Tolias, Y. Avrithis, M. Phinikettos, E. Spyrou, P. Mylonas, and S. Kollias. "VIRaL: Visual Image Retrieval and Localization". In: *Multimedia Tools and Applications (MTAP)* 51.2 (Jan. 2011), pp. 555–592.

[J18]   K. Rapantzikos, N. Tsapatsoulis, Y. Avrithis, and S. Kollias. "Spatiotemporal Saliency for Video Classification". In: *Signal Processing: Image Communication (SP:IC)* 24.7 (Aug. 2009), pp. 557–571.

[J17]   Ph. Mylonas, E. Spyrou, Y. Avrithis, and S. 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]   E. Spyrou, G. Tolias, P. Mylonas, and Y. Avrithis. "Concept detection and keyframe extraction using a visual thesaurus". In: *Multimedia Tools and Applications (MTAP)* 41.3 (Feb. 2009), pp. 337–373.

[J15]   Ph. Mylonas, Th. Athanasiadis, M. Wallace, Y. Avrithis, and S. 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]   Ph. Mylonas, D. Vallet, P. Castells, M. Fernandez, and Y. Avrithis. "Personalized information retrieval based on context and ontological knowledge". In: *Knowledge Engineering Review (KER)* 23.1 (Mar. 2008), pp. 73–100.

[J13]   Th. Athanasiadis, Ph. Mylonas, Y. Avrithis, and S. 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]   D. Vallet, P. Castells, M. Fernández, Ph. Mylonas, and Y. 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]   G. Th. Papadopoulos, Ph. Mylonas, V. Mezaris, Y. Avrithis, and I. 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]   K. Rapantzikos, N. Tsapatsoulis, Y. Avrithis, and S. Kollias. "A Bottom-Up Spatiotemporal Visual Attention Model for Video Analysis". In: *IET Image Processing (IP)* 1.2 (June 2007), pp. 237–248.

[J9]   K. Petridis, S. Bloehdorn, C. Saathoff, N. Simou, S. Dasiopoulou, V. Tzouvaras, S. Handschuh, Y. Avrithis, I. Kompatsiaris, and S. Staab. "Knowledge Representation and Semantic Annotation of Multimedia Content". In: *IEE Proceedings on Vision, Image and Signal Processing (VISP) (Special Issue on Knowledge-Based Digital Media Processing)* 153.3 (June 2006), pp. 255–262.

[J8]   M. Wallace, Y. Avrithis, and S. 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]   M. Wallace, Th. Athanasiadis, Y. Avrithis, A. Delopoulos, and S. 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] Y. Avrithis, G. Stamou, M. Wallace, F. Marques, P. Salembier, X. Giro, W. Haas, H. Vallant, and M. Zufferey. "Unified Access to Heterogeneous Audiovisual Archives". In: *Journal of Universal Computer Science (JUCS)* 9.6 (June 2003), pp. 510–519.

[J5] N. Tsapatsoulis, Y. Avrithis, and S. 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] Y. Avrithis, Y. Xirouhakis, and S. 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] A. Doulamis, N. Doulamis, Y. Avrithis, and S. 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] N. Doulamis, A. Doulamis, Y. Avrithis, K. Ntalianis, and S. 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] Y. Avrithis, A. Doulamis, N. Doulamis, and S. 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.

──────────── Conference proceedings

[C112] A. Iscen, G. Tolias, Y. Avrithis, and O. 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.

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