# 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, 127 in conferences and workshops, 8 book chapters and 40 technical reports in the above fields. He has contributed to the organization of 24 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 postgraguate 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 ( $E\rho\Gamma A$ ), 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  $\mu$ -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.

# 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 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

- 2022–2023 *Thodoris Lymperopoulos*. On the baseline image for the evaluation of attribution methods.
- 2022–2023 Chris Morphopoulos. Image captioning and visual question answering.
- 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 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]

- 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 HEL-LEnic 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.

## 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 Superieure, 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. Reviewer and Rapporteur. FP7-231761 Integrated Project NoTube [NoTube], Eu-2010-2012 ropean Commission, DG Information Society and Media, Unit E2. **Editorial activities** Associate Editor. Computer Vision and Image Understanding [CVIU]. 2021-Associate Editor. EURASIP Journal on Image and Video Processing [JIVP]. 2009-2014 Reviewer in journals 2021-International Journal of Computer Vision [IJCV] ACM Computing Surveys [CSUR] 2014 Elsevier: Image and Vision Computing [IVC] 2012 2008-2021 Elsevier: Computer Vision and Image Understanding [CVIU] 2007-2016 Elsevier: Neurocomputing [NEUCOM] Elsevier: Signal Processing: Image Communication [SP:IC] 2006-2010 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] IEEE Transactions on Pattern Analysis and Machine Intelligence [TPAMI] 2004-2004-2016 Springer: Multimedia Tools and Applications [MTAP] Springer: Pattern Analysis and Applications [PAA] 2004 2003 EURASIP Journal of Applied Signal Processing [JASP] IEEE Transactions on Image Processing [TIP] 2002 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] International Conference on Learning Representations [ICLR] 2022-2013-International Conference on Computer Vision [ICCV] IEEE Conference on Computer Vision and Pattern Recognition [CVPR] 2013-2012-European Conference on Computer Vision [ECCV] 2012-2016 British Machine Vision Conference [BMVC] ACM International Conference on Multimedia Retrieval [ICMR] 2012 2009-2013 International Multimedia Modeling Conference [MMM] 2009 International Conference on Digital Signal Processing [DSP] ACM Multimedia Conference [ACM-MM] 2007-2016 ACM International Conference on Image and Video Retrieval [CIVR] 2007-2008 European Signal Processing Conference [EUSIPCO] 2007 International Conference on Multimedia and Expo [ICME] 2007-2017 2006-2007 International Conference on Visual Information Engineering [VIE] IEEE International Conference on Acoustics, Speech, and Signal Processing 2005-2017 [ICASSP] 2004-2016 IEEE International Conference on Image Processing [ICIP]

#### **Program Committee member in workshops**

2002-2009

2006 ESWC Workshop on Mastering the Gap: From Information Extraction to Semantic Representation [MTG]

2006 International Workshop on Semantic Web Annotations for Multimedia [SWAMM]

International Conference on Artificial Neural Networks [ICANN]

- 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]

#### **Publications**

#### **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.

## 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.

#### Journal articles

- [J31] Zhaohui Yang, Miaojing 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: *IPSJ 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.
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