George P. Pavlidis
Curriculum Vitae

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Date of birth	March 6, 1970
Place of birth	Kavala, Greece
Nationality	Greek
Occupation	Research Director Expertise: Image processing and multimedia applications in culture and education Athena - Research and Innovation Centre in Information, Communication and Knowledge Technologies ILSP - Institute for Language and Speech Processing
Postal address	University Campus at Kimmeria PO BOX 159, GR-67100, Xanthi, Greece
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E-mail	Professional (gpavlid@athenarc.gr) Personal (gpavlid@gmail.com)
Languages	Greek (mother), English (fluent)
Military Service	22/3/1999 – 22/2/2001
Web references	Google Scholar, Scopus, ResearchID, ORCID
Webpages	Athena Research Centre profile Personal blog LinkedIn profile

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1 Education

1.1 Degrees

2005	PhD in Electrical & Computer Engineering, Dept. of Electrical and Computer Engineering, Polytechnic School, Democritus University of Thrace, Dissertation title: **"Segmentation of color images"**
1995	Diploma in Electrical Engineering, Dept. Of Electrical and Computer Engineering, Polytechnic School, Democritus University of Thrace, Dissertation title: **"Motion simulation and control panel for an underwater remotely operated vehicle"**

1.2 Lifelong learning & development

2017	Research leave at the University of California San Diego, Jan.-Mar. 2017, collaboration with the Center for Cyber Archaeology and Sustainability, Qualcomm Institute, UCSD, San Diego, USA
2014	Online Course "Introduction to Grid Computing", Nov. 2013 – Feb. 2014, organized by SURFsara, Dutch HPC, e-Science support centre
2013	"Free your creativity – Innovate", 23 Oct. 2013, Xanthi, Greece, organized by the Innovation & Entrepreneurship Unit, Employment & Career Office of Democritus University of Thrace and supported by the Region of East Macedonia & Thrace
2011	"Autonomous Micro Aerial Vehicles: Design, Perception, and Control", 4-7 July 2011, ETH Zurich, Switzerland, organized by the Robotics Summer Schools at ETHZ.
2005	"Geographical Information Systems", 7-8 Apr. 2005, Xanthi, Greece, organized by MDS Marathon Data Systems

2 Academic, research and innovation professional experience

2.1 Current positions

Since 2015	**Research Director (Researcher A')**: "Image processing and multimedia applications in culture and education", Institute for Language and Speech Processing, Athena - Research and Innovation Centre in Information, Communication and Knowledge Technologies, Xanthi, Greece.
2023-2024	**Adjunct Faculty**: post-graduate programme "Digital Humanities: methods, tools, practices", Hellenic Open University, Greece.

2.2 Past positions

2015-2018	**Adjunct Faculty**: post-graduate programme "MSc in Applied Informatics", Department of Computer, Informatics and Telecommunications Engineering, International Hellenic University
2012-2018	**Adjunct Faculty**: post-graduate programme "MSc in Innovation in Technology & Engineering Management", Department of Physics, International Hellenic University
2015-2018	**Adjunct Faculty**: post graduate programme "Applied Archaeological Sciences", Department of Mediterranean Studies, University of the Aegean

2012-2015	**Principal Researcher (Researcher B')**: "Image processing and multimedia applications in culture and education", Institute for Language and Speech Processing (after the incorporation of the Cultural and Educational Technology Institute), Athena - Research and Innovation Centre in Information, Communication and Knowledge Technologies, Xanthi, Greece
2011-2013	**Adjunct Lecturer**: "Pattern Recognition – Neural Networks", "Digital Signal Processing", Department Of Informatics Engineering, Technological Educational Institution of Central Macedonia, Serres, Greece
2009-2012	**Principal Researcher (Researcher B')**: "Image processing and multimedia applications in culture and education", Cultural and Educational Technology Institute, Athena - Research and Innovation Centre in Information, Communication and Knowledge Technologies, Xanthi, Greece
2006-2009	**Associate Researcher (Researcher C')**: "Image processing and multimedia applications in culture and education", Cultural and Educational Technology Institute, Athena - Research and Innovation Centre in Information, Communication and Knowledge Technologies, Xanthi, Greece
2006-2009	**Adjunct Lecturer**: "Multimedia", Department Of Electrical and Computer Engineering, Democritus University of Thrace, Xanthi, Greece
2007-2008	**Adjunct Lecturer**: "CAD II", Department Of Architectural Engineering, Democritus University of Thrace, Xanthi, Greece
2004-2005	**Adjunct Lecturer**: "Programming with MATLAB", Department Of Electrical and Computer Engineering, Democritus University of Thrace, Xanthi, Greece
2004-2005	**Adjunct Lecturer**: "Usage of Computers", Hellenic Organization of Vocational Education and Training, Institute of Vocational Training of Xanthi, Xanthi, Greece
2002-2006	**Multimedia Engineer**, Cultural and Educational Technology Institute, Athena - Research and Innovation Centre in Information, Communication and Knowledge Technologies, Xanthi, Greece
1996-1998	**Project Management staff**, Research Committee, Democritus University of Thrace, Xanthi, Greece
1995-2016	**Electrical Engineer freelancer**, Main activities in informatics (consulting, analysis/programming/development, education), Xanthi, Greece
1992-1995	**IT Freelancer**, Main activities in analysis/programming and IT training, Xanthi, Greece

3 Scientific and research activity

3.1 Honours, distinctions and awards

[AWD11] Session "Heritage under climate change threat: Innovation, mitigation, adaptation and education for resilience' chair at the International Conference "Cultural Heritage and New Technologies", Nov. 15-17, Vienna, Austria, 2023.

[AWD10] Session 5 "3D reconstruction, modeling and visualization (Part II)" chair at the International Conference "Computer Applications & Quantitative Methods in Archaeology (CAA-GR 2018)", Jun. 20, Limassol, Cyprus, 2018.

[AWD9] Appointed member of the International Assessment Panel of the JPICH Digital Heritage Call on behalf of the Research Promotion Foundation, (RPF), Cyprus, 2017.

[AWD8] Session 3a – Special Session "Culture-Technology-Education" chair at the International

Symposium "Virtual Archaeology: Museums & Cultural Tourism", Sept. 24, Delphi, Greece, 2015.

[AWD7] Session 4 chair at the international symposium "Virtual Archaeology: Museums & Cultural Tourism", Sept. 27, 2013, Delphi, Greece.

[AWD6] Appointed expert of Cultural Content "Futures Workshop" organized as part of the first SEE Regional Foresight exercise on ICT Research, Development and Innovation, Mar. 21, 2013, Sofia, Bulgaria.

[AWD5] First 3D cultural content in Europeana by the Multimedia Research Group of the Athena Research Centre.

[AWD4] Most cited paper in the Elsevier Journal of Cultural Heritage (2011-2015) – paper: "Multi-image 3D reconstruction data evaluation" (currently No.9 in the all-time journal citation list).

[AWD3] Most cited paper in the Elsevier Journal of Cultural Heritage (2007-2011) – paper: "Methods for 3D digitization of Cultural Heritage" (currently No.4 in the all-time journal citation list).

[AWD2] Award of Excellence for successful completion and quality of the project Digitech III-2 results by the "Hellenic Information Society Programme", 2009.

[AWD1] Ericsson Awards of Excellence in Telecommunications for the doctoral dissertation, Jun. 10, 2005.

3.2 Distinguished lectures

[INV12] Invited talk on "the new trends in the research of the humanities brought by artificial intelligence" at the Evening Web Seminar "New Technologies and Digital Humanities" organised by the Institute for Mediterranean Studies of the Foundation for Research and Technology - Hellas, Nov. 29, 2023, Rethymno, Crete, Greece.

[INV11] Invited panel speaker at the Thinc Innovation Forum - Robotics and new technologies as a lever for the enhancement of the innovation ecosystem (panel "Connection and promotion of culture through new technologies"), Oct. 12, 2023, Xanthi, Greece.

[INV10] Invited panel speaker at the DUTH Innovation Week, May 26, 2023, Xanthi, Greece.

[INV9] Keynote speech "Artificial Intelligence in Gastronomic Tourism", Second International Conference on Advances in Signal Processing and Artificial Intelligence (ASPAI' 2020), 2020, Berlin, Germany.

[INV8] Invited talk "Digital Cultural Heritage in Greece & Beyond", organized by the Center for Hellenic Studies at the University of California San Diego, The Auditorium at Qualcomm Institute, co-sponsored with the UC Cyber-Archaeology Center, Jewish Studies and the Hellenic Student Association of UCSD, 27 Mar. 2017, San Diego, USA.

[INV7] Invited talk at the Seminar "Diagnosis Techniques in the Art Conservation Science", organized by the Cross-disciplinary Postgraduate Programme of Aristotle University of Thessaloniki, 17-19 Feb. 2012, Thessaloniki, Greece.

[INV6] Invited organization and talk by the IEEE Student Branch of Democritus University of Thrace for a crash-course seminar in "Digital photography and image processing", 2011, Xanthi, Greece.

[INV5] Invited talk at the Dept. of History and Archaeology of Aristotle University of Thessaloniki, post-graduate course: "New technologies in ancient Greek pottery", 2009, Thessaloniki, Greece.

[INV4] Speech on "Three dimensional digital recording" under the roundtable on "Applications of 3D technologies to culture", thematic unit "Images of the digital future: emerging information technologies", workshop "Digital Innovation for the Knowledge Society", Eugenides Foundation, May 28, 2008, Athens, Greece.

[INV3] Speech on the "Clepsydra Cultural Heritage Digitization Centre – Preserving the past, Investing in the future", Workshop on Digital recording of cultural heritage, 2007, Xanthi, Greece.

[INV2] Speech on the "Three dimensional digitization", Greek Army - Fourth Corps, 2007, Xanthi, Greece.

[INV1] Speech on the "Exploitation of the Internet for online services", under the project "Information and support for the involvement of repatriated Greeks of the Municipality of Xanthi in the Digital Age", 2005, Xanthi, Greece.

3.3   Contribution to the scientific community

3.3.1   Organization of international scientific summer schools

[O-S2] "Digital Technologies In Cultural Heritage & Tourism", 2016.

[O-S1] "Digital Technologies In Cultural Heritage & Tourism", 2015.

3.3.2   Organization of international scientific conferences

[O-C5] CAA International Conference 2025, "Digital Horizons: Embracing Heritage in an Evolving World", upcoming May 2025, Athens, Greece.

[O-C4] CAA-GR 2024 - Computer Applications and Quantitative Methods in Archaeology Greece 2024, "Transforming heritage research in a transforming world", 2024, Serres, Greece.

[O-C3] VAMCT 2015 - Virtual Archaeology: Museums and Cultural Tourism, 2015, Delphi, Greece.

[O-C2] VAMCT 2013 - Virtual Archaeology: Museums and Cultural Tourism, 2013, Delphi, Greece.

[O-C1] SIMULTECH - International Conference on Simulation and Modeling Methodologies, Technologies and Applications, 2011-today.

3.3.3   Organization of workshops & round-tables

[O-W3] Workshop "Culture-Technology-Education", 15 May 2015, 16:00-18:00, Room D (Pav. 8, Helexpo), in the Thessaloniki Science Festival, Thessaloniki, Greece.

[O-W2] App development workshop Xanthi 2015, two-days hands-on workshop on smart mobile devices application development, Democritus University of Thrace Amphitheater, 16-17 May 2015, Xanthi, Greece.

[O-W1] Roundtable on "Applications of 3D technologies to culture", thematic unit "Images of the digital future: emerging information technologies", at the workshop "Digital Innovation for the Knowledge Society", Eugenides Foundation, May 28, 2008, Athens, Greece.

3.3.4 Organization of scientific & technological events & exhibitions

[O-EV1] "Researchers' Night", Xanthi & Athens, 2018, 2017, 2016.

3.3.5 Editorial boards in international scientific journals

[EB5] International Journal of Art, Culture, Design, and Technology, Associate Editor.

[EB4] International Journal of Computational Methods in Heritage Science, Editor in chief.

[EB3] Journal of Advanced Computer Science & Technology, 2012-today.

[EB2] International Scientific Journal on Mediterranean Archaeology and Archaeometry, 2014-2016.

[EB1] Computer Science and Engineering of Scientific and Academic Publishing, 2013-today.

3.3.6 Advisory, technical & reviewing committees

2023-2020	ACM Computing and Cultural Heritage
2023	Springer Personal and Ubiquitous Computing
2022	InderScience Data Science
2022-2020	Engineering, Technology & Applied Science Research
2022	Emerald Journal of Cultural Heritage Management and Sustainable Development
2022	MDPI Big Data and Cognitive Computing
2022-2020	MDPI Information
2022-2008	Elsevier Journal of Cultural Heritage
2021	IGI-Global International Journal of Art, Culture, Design, and Technology
2020	CAA Journal of Computer Applications in Archaeology
2020	Springer Applied Geomatics
2020-2017	Springer Heritage Science
2020-2016	Elsevier Digital Applications in Archaeology and Cultural Heritage
2020-2014	MDPI Sensors
2020-2014	Scientific Research Journal of Sensor Technology
2020-2006	IEEE Transactions on Image Processing
2020-2001	International Conference on Simulation and Modeling Methodologies, Technologies and Applications: SIMULTECH
2019	Springer Personal and Ubiquitous Computing
2019	Springer Multiscale and Multidisciplinary Modeling, Experiments and Design
2019	DISP The International Conference on Digital Image & Signal Processing
2018	DCAC International Conference Digital Culture & AudioVisual Challenges Interdisciplinary Creativity in Arts and Technology
2018-2015	Springer Signal, Image and Video Processing

2017	Elsevier Photogrammetry and Remote Sensing
2017	IEEE GCC Conference and Exhibition
2017	International Conference Recent Research in Engineering and Sciences: RENCES
2017	International Symposium on Social Sciences, Arts and Humanities: SYSSARM
2017	World Conference on Education in Science, Technology and Social Science: EDUSTS
2017	Borneo International Conference on Digital Content: BICODIC
2017	Advanced Research on Applied Mathematics in Science and Engineering: ARAMSE
2017	SAP Management
2017-2015	International Conference on Progress in Applied Mathematics in Science and Engineering: PIAMSE
2017-2015	International Symposium on Sciences and Mathematics: ISySM
2017-2015	International Conference on Game Physics and Mechanics: GAMEPEC
2016-2015	Mediterranean Archaeology and Archaeometry
2016	International Conference ACM Multimedia: ACMMM
2016	International Conference on Advanced Research in Engineering and Information Technology: AREITIC
2016	International Conference on Advanced Research on Business, Management and Humanities: ARBUHUM
2016	International Conference on Applied Mathematics in Science and Engineering: APPEMSE
2016	International Conference on Progress in Computer Sciences and Information Technology: PROCSIT
2016	International Conference on Computer Sciences and Information Technology: COMSIT
2016	International Conference on Advancement in Informatics, Business and Management: ADIBUM
2015	SAP Computer Science and Engineering
2015	SPG International Journal of Intelligent Information Systems
2015	EURASIP Journal on Image and Video Processing
2015	Journal of Advanced Computer Science and Technology, SPC
2015	IEEE International Symposium on Signal Processing and Information Technology: ISSPIT
2015	International Conference on Engineering Management and Industrial Technology: ICEMIT
2015	International Symposium on Web of Things and Big Data: WoTBD
2015	International Conference of Signal Processing and Data Mining: ICSPDM
2015	International Colloquium of Art and Design Education Research: i-CADER
2015	International Conference on Science and Social Research: CSSR
2015	Fifth International e-Learning Conference: IeLC
2015-2014	International Workshop on Design and Performance of Networks on Chip: DPNoC
2015-2014	International Workshop on Mobile Applications: MobiApps
2015-2014	SPG Science Journal of Circuits, Systems and Signal Processing
2015-2014	MDPI Remote Sensing
2015-2008	Elsevier Signal Processing
2014	InderScience International Journal of Applied Systemic Studies
2014	IEEE Colloquium on Humanities, Science and Engineering Research: CHUSER
2014	International Postgraduate Colloquium on Science and Technology, IPCOST
2014-2012	IEEE Symposium on Business, Engineering and Industrial Applications: ISBEIA

2014-2013	IEEE International Conference on Control System, Computing and Engineering, ICC-SCE
2013	Elsevier Pattern Recognition Letters
2013	Routledge Archives and Manuscripts
2013	IEEE Business, Engineering & Industrial Applications Colloquium: BEIAC
2013	Colloquium on Administrative Science & Technology: CoAST
2013-2012	IEEE Symposium on Humanities, Science and Engineering: SHUSER
2013-2012	IEEE Symposium on Industrial Electronics & Applications: ISIEA
2012	Hindawi Journal of Electrical and Computer Engineering
2011	Elsevier Journal of Signal Processing
2011	Bentham Science Recent Patents on Signal Processing
2011	Annual international conference on Computer Applications and Quantitative Methods in Archaeology: CAA
2011	International Conference on Engineering and Meta-Engineering: ICEME
2011	International Conference on Digital Signal Processing: DSP
2011-2009	International Multi-Conference on Engineering and Technological Innovation: IMETI
2010	International Conference on Imaging Systems and Techniques: IST
2008	Elsevier Journal of Signal Processing
2008	EURASIP Journal on Advances in Signal Processing
2008	ACM International Conference on Digital Interactive Media in Entertainment and Arts: DIMEA
2007	IEEE Africon
2007-2005	IEEE Transactions on Multimedia

3.3.7 Committees for research policy and management

[C-MP17] Elected deputy chair of the Regional Council of Research and Innovation for the Region of Eastern Macedonia and Thrace, Greece, Greek Government Gazette 1173/Dec.16, 2022, 2022-2026.

[C-MP16] Member of the Working Group "Education and training for Open Science", of the Hellenic Open Science Initiative, 2023.

[C-MP15] Member of the General Assembly of the Hellenic Foundation for Research and Innovation, representing the Athena Research Centre, Greek Government Gazette 273/Apr.7,2021, 2021-2023.

[C-MP14] Member of the Scientific Advisory Board of the ILSP/Athena (Institute for Language and Speech Processing / Athena Research Centre), 2021-2023, 2018-2020, 2012-2016.

[C-MP13] Elected Deputy Chair of the Steering Committee of the CAA-GR (Greek Chapter of Computer Applications and Quantitative Methods in Archaeology), 2021-2024.

[C-MP12] Elected Secretary of the Steering Committee of the CAA-GR (Greek Chapter of Computer Applications and Quantitative Methods in Archaeology), 2018-2021.

[C-MP11] Member of the International Assessment Panel of the JPI Cultural Heritage and Global Change - JPICH Digital Heritage Call (22 Jul. 2017), on behalf of the Research Promotion Foundation, Cyprus, 2017.

[C-MP10] Member of the CIPA Task Group 5 "Earth Observation in Cultural Heritage Documentation", 2016-today.

[C-MP9] Head of the Multimedia Research Group at ILSP/Athena (Institute for Language and Speech Processing / Athena Research Centre), 2012-today.

[C-MP8] Member of "Clepsydra"-Cultural Heritage Digitization Centre, Institute for Language and Speech Processing / Athena Research Centre, 2012-2019.

[C-MP7] Head of the Department of Multimedia, Cultural and Educational Technology Institute / Athena Research Centre, 2009-2012.

[C-MP6] Head of research at "Clepsydra"-Cultural Heritage Digitization Centre, Cultural and Educational Technology Institute / Athena Research Centre, 2008-2012.

[C-MP5] Evaluator of high tech proposal and projects for the General Secretariat of Research and Technology under the 3rd Framework Programme, Measure 3.3., Programme "Processing of images, sounds and language".

[C-MP4] Evaluator of high tech proposal and projects for the General Secretariat of Research and Technology under the 3rd Framework Programme, for the Regional Operational Programmes of Attica, Crete, Northern Aegean, Western Greece and the Ionian Islands.

[C-MP3] Evaluator of high tech proposal and projects for the General Secretariat of Research and Technology under the 3rd Framework Programme, Measure 8.3 – Action 8.3.6., Human Networks of Research and Technological Training.

[C-MP2] Evaluator of high tech proposal and projects for the General Secretariat of Research and Technology under the 3rd Framework Programme, for PENED programme.

[C-MP1] Evaluator of high tech proposal and projects for the General Secretariat of Research and Technology under the 3rd Framework Programme, for Investment Projects.

3.3.8 Participation in scientific and technological exhibitions

[EX16] "Researchers' Night" 2018, for Athena Research Centre, Xanthi, Greece, 28 Sep. 2018.

[EX15] "Researchers' Night" 2017, for Athena Research Centre, Xanthi, Greece, 29 Sep. 2017.

[EX14] "Researchers' Night" 2016, for Athena Research Centre, Xanthi, Greece, 30 Sep. 2016.

[EX13] HELEXPO International Exhibition of Thessaloniki, for Athena Research Centre, 2016.

[EX12] Thessaloniki Science Festival, for Athena Research Center, WE Sports and Culture Facility, TIF-Helexpo, Pavilion 8, 14-17 May 2015, Thessaloniki, Greece.

[EX11] Athens Science Festival, for Athena Research Centre, Technopolis, Gazi, Athens, Greece, 17-22 March 2015.

[EX10] HELEXPO International Exhibition of Thessaloniki, for Athena Research Centre, 2015.

[EX9] "Researchers' Night" 2014, for Athena Research Centre, NCSR Democritus, Athens, Greece, 26 Sep. 2014.

[EX8] 5th Industrial Informatics Festival 2014, in collaboration with the Laboratory of Special Engineering of the Department of Electrical and Computer Engineering of Democritus University of Thrace, Nea Karvali, Kavala, Greece, Oct. 12-18, 2014.

[EX7] 3rd Industrial Informatics Festival 2012, in collaboration with the Laboratory of Special Engineering of the Department of Electrical and Computer Engineering of Democritus University of Thrace, Nea Karvali, Kavala, Greece, Oct. 17-21, 2012.

[EX6] 19th PanHellenic exhibition "Thrace", International Exhibition Centre, Komotini, Greece, 2010.

[EX5] HELEXPO International Exhibition of Thessaloniki 2008.

[EX4] Workshop "Digital Innovation and the Society of Knowledge", Eugenides Foundation, Athens, Greece, 2008.

[EX3] HELEXPO International Exhibition of Thessaloniki 2007.

[EX2] "Days of Research and Technology", Zappeion, Athens, Greece, 2006, 2007.

[EX1] HELEXPO International Exhibition of Thessaloniki 2006.

4 Teaching

4.1 Independent teaching

4.1.1 Postgraduate courses

[PCRS8] CREATION AND PROCESSING OF MULTIMEDIA RESOURCES (2023-2024), MSc in "Digital Humanities: methods, tools, practices", Hellenic Open University

[PCRS7] A2. 3D DIGITIZATION OF CULTURAL HERITAGE (2015-2018), units 4/13, Department of Mediterranean Studies, University of the Aegean, MSc in "Applied Archaeological Sciences

[PCRS6] B1. IT APPLICATIONS, VIRTUAL MUSEUMS, CYBERARCHAEOLOGY (2015-2018), units 6/13, Department of Mediterranean Studies, University of the Aegean, MSc in "Applied Archaeological Sciences

[PCRS5] B3. LASER SCANNER, TOPOGRAPHIC MAPPING, DIGITAL REPRESENTATION (2015-2018), units 7/13, Department of Mediterranean Studies, University of the Aegean, MSc in "Applied Archaeological Sciences

[PCRS4] B4. ANALYTIC METHODS OF MOBILE INSTRUMENTATION (2015-2018), units 1/13, Department of Mediterranean Studies, University of the Aegean, MSc in "Applied Archaeological Sciences

[PCRS3] COMPUTER GRAPHICS AND MULTIMEDIA – 205 (2015-today), Dept. of Informatics Engineering, Technological Educational Institution of Central Macedonia MSc in Applied Informatics

[PCRS2] WEB APPLICATIONS DESIGN (2012-2018), Dept. of Electrical Engineering, Technological Educational Institution of East Macedonia and Thrace, MSc in Innovation in Technology & Engineering Management

[PCRS1] MOBILE COMMUNICATIONS (2012-2013), Dept. of Electrical Engineering, Technological Educational Institution of East Macedonia and Thrace, MSc in Innovation in Technology & Engineering Management

4.1.2 Undergraduate courses

[CRS5] DIGITAL SIGNAL PROCESSING (2012-2013), Dept. of Informatics Engineering, Technological Educational Institution of Central Macedonia

[CRS4] PATTERN RECOGNITION – NEURAL NETWORKS (2011-2013), Dept. of Informatics Engineering, Technological Educational Institution of Central Macedonia

[CRS3] MULTIMEDIA (2006-2009), Dept. of Electrical and Computer Engineering, Democritus University of Thrace

[CRS2] CAD II (2007-2008), Dept. of Architectural Engineering, Democritus University of Thrace

[CRS1] PROGRAMMING WITH MATLAB (2004-2005), Dept. of Electrical and Computer Engineering, Democritus University of Thrace

4.2 Laboratory organization and teaching assistantship

[LAB3] DIGITAL SIGNAL PROCESSING (2012-2013), Dept. of Informatics Engineering, Technological Educational Institution of Central Macedonia

[LAB2] DIGITAL SIGNAL PROCESSING (2000-2004), Dept. of Electrical and Computer Engineering, Democritus University of Thrace

[LAB1] ELECTRICAL CIRCUITS III (2002-2004), Dept. of Electrical and Computer Engineering, Democritus University of Thrace

4.3 PhD theses supervision

[PHD6] Charalampos Georgakis, member of the supervising committee, Dept. of History and Ethnology, Democritus University of Thrace, 2021.

[PHD5] Vasileios Arampatzakis, member of the supervising committee, Dept. of Electrical and Computer Engineering, Democritus University of Thrace, 2019.

[PHD4] Vasileios Sevetlidis, member of the supervising committee, Dept. of Production and Management Engineering, Democritus University of Thrace, 2018.

[PHD3] Marina Kechaidou, member of the supervising committee, Dept. of Primary Education, Democritus University of Thrace, 2017.

[PHD2] Agisilaos Andreou, member of the supervising committee, Dept. of Production and Management Engineering, Democritus University of Thrace, 2016.

[PHD1] Ioannis Diolatzis, "Application of the theory of epicycles to the Antikythera mechanism: study of the planetary movement at the front of the mechanism and reconstructing", member of the supervising committee, Dept. of Cultural Technology and Communication, University of the Aegean, 2015.

4.4 Masters theses supervision

[MSC12] George Serafeim, "Modern techniques of 3D digitization and publishing of objects on the Web", TEI of Central Macedonia, MSc in Applied Informatics, completed Mar. 2020.

[MSC11] Vasileios Sevetlidis, "A machine learning approach to analysis and classification of measurements in cultural heritage", MSc in Applied Archaeological Sciences, completed Mar. 2018.

[MSC10] Konstantinos Kallianiotis, "Documentation of an excavation with GIS and 3D scanning: the case of the Eucleia sanctuary at Aigai, Greece, MSc in Applied Archaeological Sciences, completed Feb. 2018.

[MSC9] Ioannis-Stephanos Miropoulos, "Modern approaches to 3D digitization and sharing of 3D objects on the Web", TEI of Central Macedonia, MSc in Applied Informatics, assigned Jun. 2017.

[MSC8] Vasiliki Argiti, "Aggitis: 3D digitization, study and dissemination of paleontological and archaeological findings", University of the Aegean, MSc in Applied Archaeological Sciences, completed Sept. 2017.

[MSC7] Tsampika Afantenou, "3D digitization and dissemination of ecclesiastical heritage", University of the Aegean, MSc in Applied Archaeological Sciences, completed Sept. 2017.

[MSC6] Dimitra Chatzipavlou, "Educational web portal with support for children with learning difficulties", TEI of East Macedonia and Thrace, MSc in Innovation in Technology & Engineering Management, assigned Jun. 2016.

[MSC5] Konstantinos Tsalikidis, "Development of a Web-based RPG as a tool for education in informatics and programming", TEI of East Macedonia and Thrace, MSc in Innovation in Technology & Engineering Management, completed Mar. 2015.

[MSC4] Apostolos Pavlidis, "Multimodal human-computer interaction using ambient intelligence techniques", TEI of East Macedonia and Thrace, MSc in Innovation in Technology & Engineering Management, completed Mar. 2014

[MSC3] Ioannis Dimou, "Fully operational commercial website using contemporary web design techniques and smart mobile device compliance", TEI of East Macedonia and Thrace, MSc in Innovation in Technology & Engineering Management, completed Mar. 2014.

[MSC2] Argirios Thagopoulos, "Professional-grade commercial website with advanced user interaction capabilities and personalization, based on modern web design approaches and smart mobile device compliance", TEI of East Macedonia and Thrace, MSc in Innovation in Technology & Engineering Management, completed Mar. 2014.

[MSC1] Alexandros Manousos, "From mobile networks to the Internet of Things - a thorough review", TEI of East Macedonia and Thrace, MSc in Innovation in Technology & Engineering Management, completed Mar. 2014.

4.5 Graduate theses supervision

[THS10] Maria Pappou & Christos Zaptses, "Cooperative action of smart mobile devices and small scale measurement and robotic systems", Dept. of Informatics Engineering, Technological Educational Institution of Central Macedonia, completed Nov. 2014, experimental app available at the Google Play Store.

[THS9] Vasilios Tsorbatzoudis, "Integrated system for the connection of QR code signage with web databases/portals through SQL calls on Android smart mobile devices", Dept. of Informatics Engineering, Technological Educational Institution of Central Macedonia, completed Apr. 2014, app available at the Google Play Store.

[THS8] Dimitrios Farganis, "Web programming and social media integration – management of exhibitions and contests on artworks", Dept. of Informatics Engineering, Technological Educational Institution of Central Macedonia, completed Nov. 2013.

[THS7] Stephanie Papariga, "Motion detection for surveillance using a web camera and OpenCV", Dept. of Informatics Engineering, Technological Educational Institution of Central Macedonia, completed Nov. 2013.

[THS6] Vasileios Sevetlidis, "Analysis of color images for content-based retrieval applications", Dept. of Informatics Engineering, Technological Educational Institution of Central Macedonia, completed Oct. 2013.

[THS5] Theodoros Xanthopoulos, "Real-time image processing for person detection/identification with smart mobile devices", Dept. of Informatics Engineering, Technological Educational Institution of Central Macedonia, completed Sept. 2013, app available at Google Play Store.

[THS4] Anastasia Koustouda, "Design and implementation of a commercial portal for the city of Serres on Android OS smartphones", Dept. of Informatics Engineering, Technological Educational Institution of Central Macedonia, completed May 2013, app available at Google Play Store.

[THS3] Konstantinos Vlachos, "Face recognition system in a controlled space with a web camera and OpenCV", Dept. of Informatics Engineering, Technological Educational Institution of Central Macedonia, completed Feb. 2013.

[THS2] Christos Feizidis, "Microprocessor-based system for the barcode identification in access control applications", Dept. of Informatics Engineering, Technological Educational Institution of Central Macedonia, completed Jul. 2015.

[THS1] George Siougles & Konstantinos Petsinas, "Location sharing and coordination based on smart mobile devices", Dept. of Informatics Engineering, Technological Educational Institution of Central Macedonia, assigned Nov. 27, 2012

4.6 Academic committees

4.6.1 PhD committees

[SC-PHD12] Maria Charalampidou, "Wireless Sensor Network Monitoring for Intruder Detection in Open Areas", 2020, Department of Electrical and Computer Engineering, Democritus University of Thrace.

[SC-PHD11] Sophia Paschou, "Museums and digital technologies: contribution to the study and the outline of Museum Digital Ethics (The emergence of Museum Digital Atmosphere)", 2019, Dept. of Archives, Library Science and Museology, Ionian University.

[SC-PHD10] John Konstantinides, "Improved Worst-Case Performance Analysis Bounds using Concentration Inequalities", 2018, Department of Electrical and Computer Engineering, Democritus University of Thrace.

[SC-PHD9] Chairi Kiourt, "Collective Artificial Intelligence and Personalized Educational Interactions in Learning new Skills", 2017, , Hellenic Open University, Schools of Science & Technology.

[SC-PHD8] Eleni Vrochidou, "Automatic classification of defects in buildings after earthquakes", 2016, Department of Electrical and Computer Engineering, Democritus University of Thrace.

[SC-PHD7] Panagiotis Theologou, "Unsupervised segmentation of 3D polygonal meshes", 2016, Department of Electrical and Computer Engineering, Democritus University of Thrace.

[SC-PHD6] Chryssanthi Iakovidou, "Development, implementation and evaluation of methods for the description and the retrieval of multimedia visual content using intelligent techniques", 2015, Department of Electrical and Computer Engineering, Democritus University of Thrace.

[SC-PHD5] Dimitrios Chrysostomou, "System of multiple cameras for robotic navigation systems and surveillance", 2012, Department of Production and Management Engineering, Democritus University of Thrace.

[SC-PHD4] Aikaterini Balla, "Macedonian tombs: geographical approach with modern methods", 2012, Department of Cultural Technology and Communication, University of the Aegean.

[SC-PHD3] Savvas Chatzichristofis, "Description and retrieval of the visual content of multimedia information based on intelligent techniques", 2010, Department of Electrical and Computer Engineering, Democritus University of Thrace.

[SC-PHD2] Christos Georgoulas, "Design and implementation of stereo vision electronic system", 2010, Department of Electrical and Computer Engineering, Democritus University of Thrace.

[SC-PHD1] Anestis Koutsoudis, "Content-based retrieval of 3D data using the MPEG-7 schema", 2010, Department of Electrical and Computer Engineering, Democritus University of Thrace.

4.6.2   Masters committees

[SC-MSC12] Paraskevas Kouris, "Remote surveillance with wireless sensor networks (WSN), intelligent data processing and wide distribution of information, using the Internet of Things (IoT)", 2016, Department of Electrical and Computer Engineering, Democritus University of Thrace.

[SC-MSC11] Konstantinos Papakipis, "Mechatronic open space surveillance system using wireless sensor network", 2014, Department of Electrical and Computer Engineering, Democritus University of Thrace.

[SC-MSC10] George Kiriakou, "Analysis of building energy management systems (BEMS), evaluation of the building complex of the Dept. of Electrical & Computer Engineering of Democritus University of Thrace and ranking the attractiveness of E/M techno-economic interventions by considering the operational costs of upgrades", 2012, Department of Electrical and Computer Engineering, Democritus University of Thrace.

[SC-MSC9] Sotiris Koumaridis, "Design and development of a measurements laboratory – Application to the measurement of thermal performance of solar collectors", 2012, Department of Electrical and Computer Engineering, Democritus University of Thrace.

[SC-MSC8] Simeon Parcharidis, "Development of a model for the simulation and optimized design of an autonomous hybrid power supply system", 2012, Department of Electrical and Computer Engineering, Democritus University of Thrace.

[SC-MSC7] Eleftheria Mitka, "Standards requirements for safe operation of domestic robots", 2011, Department of Electrical and Computer Engineering, Democritus University of Thrace.

[SC-MSC6] Ioannis Konstantinidis, "Design and implementation of techniques for the conversion of binary classification to multi-dimensional and applications to supervised learning algorithms", 2011, Department of Electrical and Computer Engineering, Democritus University of Thrace.

[SC-MSC5] George-Tsampikos Michailidis, "New hardware architectures for robotic vision", 2011, Department of Electrical and Computer Engineering, Democritus University of Thrace.

[SC-MSC4] Alexander Iosifidis, "Surveillance of moving target using a mechatronic system with active camera", 2010, Department of Electrical and Computer Engineering, Democritus University of Thrace.

[SC-MSC3] Ioannis Chatzisavvas, "Diagnostic Measurement and Oscillations Analysis System: Application to the generator bearings and turbine shaft", 2010, Department of Electrical and Computer Engineering, Democritus University of Thrace.

[SC-MSC2] Christos-Athanasios Samaras, "Mechatronic system of robot guidance and target tracking over a wireless camera: a Case Study", 2010, Department of Electrical and Computer Engineering, Democritus University of Thrace.

[SC-MSC1] Vasilios Kinatsidis, "Reconstruction of 3D objects from their parts", 2010, Department of Electrical and Computer Engineering, Democritus University of Thrace.

4.7 Supervision of internships

4.7.1 At the Athena - Research and Innovation Centre in Information, Communication and Knowledge Technologies

2020	Two students (Democritus University of Thrace, Greece), scope: • 3D printing and automation • Development and maintenance of secure online applications; programming scenarios in game engines
2019	One student (Democritus University of Thrace, Greece), scope: • Machine learning and augmented reality (AR)
2015	Three student (Democritus University of Thrace, Greece), scope: • Game engines and natural interaction • Brainwaves and automation • Brainwaves and human-computer interaction
2014	Two students (Democritus University of Thrace, Greece), scope: • Development of a complex web portal for a digital excavation
2008	One student (Democritus University of Thrace, Greece), scope: • Digital processing of audio signals and production of a sounds library
2006	One student (Democritus University of Thrace, Greece), scope: • Multimedia databases, MPEG7, XML, GIS, Java, Image Processing
2005	One student (Ecole Polytechnique de l'université de Nantes, France), scope: • Web-based 3D virtual museums based on Java technology

2004	One student (Ecole Polytechnique de l'université de Nantes, France), scope: • Design and implementation of a client-server scheme for progressive transmission of JPEG2000 encoded images over the internet with advanced capabilities
2004	Two students (Democritus University of Thrace, Greece), scope: • 3D graphics design, 3D multimedia programming, multimedia databases internet integration • Dynamic and internet-based virtual museum
2003	Two students (Democritus University of Thrace, Greece), scope: • Data compression and measuring systems (application to a weather station) • Navigation in virtual spaces with Macromedia Director

4.8 Seminar courses & talks

[T-S16] Seminar "Diagnosis Techniques in the Art Conservation Science", organized by the Cross disciplinary Postgraduate Programme of Aristotle University of Thessaloniki, 17-19 Feb. 2012, Thessaloniki.

[T-S15] Lectures on "Digital Photography and Image Processing", Foundation of Thracian Art and Tradition, Xanthi, Greece, 2008-today.

[T-S14] Fast track seminar on "Digital Photography and Image Processing", organized by the IEEE Student Branch, Democritus University of Thrace, Xanthi, Greece, 2011.

[T-S13] Seminar "Advanced subjects of digitization, processing and analysis of 3D data and applications", under the project "Strengthening of studies in informatics", Technological Educational Institution of Central Macedonia (Serres), 6-8 June 2007, Serres, Greece.

[T-S12] Seminar "Digital Recording of Cultural Heritage", under the project INTERREG III A / PHARE CBC – "Cooperation network for knowledge dissemination on 3D digitization applications", 7 – 11 May 2007, Xanthi, Greece.

[T-S11] Speech on the "CLEPSYDRA – Centre for the digitization of cultural heritage", under the project INTERREG III A / PHARE CBC – "Cooperation network for knowledge dissemination on 3D digitization applications", 4 May 2007, Xanthi, Greece.

[T-S10] Seminar presentation in "MULTI-MINE: Human Network of research and technological training in technologies of retrieval and management of knowledge from Multimedia", 5th seminar period, 24 January – 2 February 2005, Xanthi, Greece.

[T-S9] Seminar "Training of educators in the exploitation of Technologies of Information & Communication (ICT) in the Education", Courses in work packages 41-001-03 and 41-001-04, Mar.-May 2002 and Sep.-Oct. 2002, Xanthi, Greece.

[T-S8] 20-hour courses in work package 8 – usage of CAD software, COREL, etc., under the "Programme of further education of the administrative personnel of Democritus University of Thrace", 9-25 Sept. 2001, Xanthi, Greece.

[T-S7] Courses on "Computer-based laboratory experiments on electricity", under the Programme of Education of Educators, 16-27 Feb. 1998, Xanthi, Greece.

[T-S6] Seminar "Introduction to DOS, Windows 3.x, WordPerfect v6 for Windows, for the employees of the SEKAP tobacco industry", Xanthi, Greece.

[T-S5] Seminar on "Design with computers", 1994, Xanthi, Greece.

[T-S4] Seminar on "Educational applications of technology", 1994, Xanthi, Greece.

[T-S3] Seminar on "Basic principles of computer and multimedia systems", 1993, Xanthi, Greece.

[T-S2] Seminar on "Multiple communication media", 1993, Xanthi, Greece.

[T-S1] Seminars on "Usage of computers in the computerization of services of local authorities", 1992, Orestiada, Didymoteicho, Soufli, Feres & Sapes, Greece.

5 Administration activities

5.1 Associations and organizations

[M-C9] Member of the Steering Committee of the Computer Applications in Archaeology – Greek Chapter (CAA-GR), 2018-2021.

[M-C8] Senior Member of the IEEE (since 2015, member during 2001-2015).

[M-C7] Member of the Audit Committee of the Athena Researchers' Association (2018-2021).

[M-C6] Deputy Secretary General of the Board of the Athena Researchers' Association (2012-2015).

[M-C5] Secretary General of the Steering Committee of the Athena Researchers' Association (2011-2012).

[M-C4] Founding member of the Researchers' Association of the Athena Research Centre (2011).

[M-C3] Member of the Institute for Systems and Technologies of Information, Control and Communication (since 2011).

[M-C2] Member of the Association of Greek Researchers (since 2009).

[M-C1] Member of the Technical Chamber of Greece (since 1995)

5.2 Committees

[M-MC19] Elected deputy representative of the researchers in the Board of Directors of the Athena Research Centre (2017-today).

[M-MC18] Member of the annual tenders committee (2017-), for the Institute for Language and Speech Processing, 'Athena' Research Centre.

[M-MC17] Member of the annual objections evaluation committee (2017) for the Institute for Language and Speech Processing, 'Athena' Research Centre.

[M-MC16] Member of the 2017 annual committee for the evaluation of candidates of employment and project contracts, for the Institute for Language and Speech Processing, 'Athena' Research Centre.

[M-MC15] Substitute member of the 2016 annual committee for the evaluation of candidates for scholarships, for the Institute for Language and Speech Processing, 'Athena' Research Centre.

[M-MC14] Chair of the 2016 annual tenders committee, for the Institute for Language and Speech Processing, 'Athena' Research Centre.

[M-MC13] Chair of the Tender Committee for the "Building security services for the Athena Research Centre facilities in Xanthi", ILSP.PD18.XAKD.145.0215, 2015

[M-MC12] Chair of the Annual tenders committee of Athena Research Centre for 2014

[M-MC11] Chair of the tender committee of the project "Supply and installation of general and specialized building equipment for the Athena Research Centre", Jun. 2013

[M-MC10] Member of the committee for supplies under the project "Cooperation network for the knowledge transfer in 3D scanning" – Cross border Programme INTERREG IIIA / PHARE CBC GREECE – BULGARIA.

[M-MC9] Member of the committee for the award of project "Supply and installation of basic infrastructure for the Centre for the Digitization of Cultural Heritage – Clepsydra", Athena Research Centre

[M-MC8] 2007-2010 Annual committee member for the evaluation and of tenders for Athena Research Centre

[M-MC7] Member of the annual candidate evaluation committee of Athena Research Centre for 2014, 2012, 2011

[M-MC6] Member of the annual committee of scholarships of Athena Research Centre for 2014

[M-MC5] Member of the procurements committee for the project "Design and Construction of new building for CETI/Athena" – Tender 3/08

[M-MC4] Member of the procurements committee for the project "Design and Construction of new building for CETI/Athena" – Tender 2/08

[M-MC3] Member of the procurements committee for the project "Design and Construction of new building for CETI/Athena" – Tender 1/08

[M-MC2] Member of the annual asset destruction committee of Athena Research Centre for 2008

[M-MC1] Representative of the Cultural and Educational Technology Institute / Athena Research Centre for the committee of the project "Construction of the building to house CETI".

6 Research and development projects

6.1 European projects

6.1.1 Coordination

[EU-S1] "ARGUS - Non-destructive, scalable, smart monitoring of remote cultural treasures", Horizon Europe HORIZON-CL2-2023-HERITAGE-01-01, grant agreement 101132308, 2023-2026.

6.1.2   Member of the scientific team

[EU-C9] "Low Altitude Remote Sensing for the Monitoring of the State of Cultural Heritage Sites: building an Integrated Model for Maintenance (WARMEST)", MSCA-RISE, grant agreement 777981, 2018-2022.

[EU-C8] "Colour and Space in Cultural Heritage (COSCH)", COST Action TD1201, 2012-2016.

[EU-C7] "The European Network on Integrating Vision and Language (iV&L Net): Combining Computer Vision and Language Processing For Advanced Search, Retrieval, Annotation and Description of Visual Data", COST Action IC1307, 2014-2018

[EU-C6] "3D-ICONS - 3D Digitization of Icons of European Architectural and Archaeological Heritage", FP7, ICT PSP Objective identifier: 2.2 Digitizing content for Europeana, 2012-2014.

[EU-C5] "CORECT: Common Religious Cultural Pathways", Territorial co-operation Collaborative Research Project, 2011-2013.

[EU-C4] "ATRIUM: Architecture of Totalitarian Regimes of the XX Century in Urban Management", Funded by the South East Europe Programme, 2011-2013.

[EU-C3] "CARARE – Connecting Archaeology and Architecture in Europeana", CIP-Best Practice Network (CIP-ICT-PSP.2009.2.2), 2009-2011.

[EU-C2] "STACHEM – Science and Technology for Archaeology and Cultural Heritage in the Eastern Mediterranean", FP7 – Capacities Specific Programme – Research Infrastructures, 2008-2010.

[EU-C1] "Tele-Education Software For Interactive Video Lecturing (MULTIMEDIA-TESVIL)", EUREKA Programme, 2001-2003.

6.2   National (Greek) projects

6.2.1   Coordination and technical supervision

[GR-S22] "THALIA - Digital toolset for the analysis, promotion and protection of the Greek cultural reserve in small cultural institutions", principal investigator and coordinator, co-financed by the European Regional Development Fund of the European Union and Greek national funds through the Operational Program Competitiveness, Entrepreneurship and Innovation, under the call RESEARCH - CREATE - INNOVATE, 2021-2023.

[GR-S21] "PHILOTIS - State-of-the-art technologies for the recording, analysis and documentation of living languages", principal investigator and coordinator, Action for the Support of Regional Excellence, funded by the Operational Programme "Competitiveness, Entrepreneurship and Innovation" (NSRF 2014-2020) and co-financed by Greece and the European Union (European Regional Development Fund), 2020-2023.

[GR-S20] "Evrinomi - Technological framework for documentation and promotion of human creativity and culture at the Archaeological Museum of Patras", 2019-2022, principal investigator of the project and coordinator for the Athena Research Centre, MIS code 5048493, co-financed by Greece and European Union in the framework of the Operational Programme "Competitiveness, Entrepreneurship and Innovation" 2014-2020.

[GR-S19] "CAnTi: Conservation of Ancient Tirintha", 2020-2022, principal investigator and coordinator for the Athena Research Centre, MIS code 5056234, co-financed by Greece and European Union in the framework of the Operational Programme "Competitiveness, Entrepreneurship and Innovation" 2014-2020.

[GR-S18] "GRE-Taste: Savouring Greece", 2018-2021, project coordinator and principal investigator, MIS code 5030445, co-financed by Greece and European Union in the framework of the Operational Programme "Competitiveness, Entrepreneurship and Innovation" 2014-2020.

[GR-S17] "AdVENt - Augmented Visitor Experience in National Parks", 2018-2021, project principal investigator, MIS code 5031871, co-financed by Greece and European Union in the framework of the Operational Programme "Competitiveness, Entrepreneurship and Innovation" 2014-2020.

[GR-S16] "μDoc.tS - A platform for the transcription of historical handwritten documents", 2018-2021, principal investigator for the Athena Research Centre, MIS code 5030443, co-financed by Greece and European Union in the framework of the Operational Programme "Competitiveness, Entrepreneurship and Innovation" 2014-2020.

[GR-S15] "GameIt - Platform for semantic knowledge management and creation of interactive educational scenarios using advanced technologies of multiplayer game development", 2014-2015, deputy scientific coordinator for the Athena Research Centre, General Secretariat for Research and Technology, PAVET 2013 programme.

[GR-S14] "Synthesis Of Ideas, Forms And Tools For Cultural And Artistic Education (Synthesis)", 2014-2015, deputy scientific coordinator for the Athena Research Centre, Call 164, Priority Axis 2, "Education and Lifelong Learning' Programme, Ministry of Education and Religious Affairs.

[GR-S13] "Easy3D Exhibitions", 2013-2015, subcontract within the project "Integrated platform for the development and management of 3D applications of cultural heritage (3DCMS)".

[GR-S12] "Virtual walkthrough in the city of Serres", 2010, TEI of Central Macedonia (Serres).

[GR-S11] "Virtual Argostoli", 2008, Institute for Language and Speech Processing/Athena Research Centre.

[GR-S10] "Development of interactive multimedia applications for the Archaeological Museum of Arta and installation of infokiosks", 2008, Prefectural Self-Government of Arta, subproject technical supervision.

[GR-S9] "Digitization and documentation of the cultural archive of HELEXPO", 2008, HELEXPO.

[GR-S8] "Petrimus3D: Virtual representation of the Natural History Museum of the Lesvos Petrified Forest", 2008, ANCO S.A., subproject coordination.

[GR-S7] "Digitech-III-2: Update of study Digitech-III and Internet application for knowledge dissemination and education in 3D digitization technologies", 2008, Operational Programme "Information Society" – Call No.172.

[GR-S6] "Content Digitization", Sub-project 3 of project "Presentation of Cultural and Historical Heritage of Evros", Operational Programme "Information Society", 3rd Framework, 2007-2008, Prefectural Self-government of Rhodopi-Evros.

[GR-S5] "Archival and retrieval of multimedia data, based on the content and MPEG-7 metadata", (Part of project PENED, Code. 03ED679), 2006-2008, General Secretariat of Research and Development, subproject coordination.

[GR-S4] "Research activities support at CETI", 2005-2008, Excellence in Research Institutes of GSRT, subproject coordination.

[GR-S3] "DIGITECH-III: Study of 3D digitization technologies", Operational Programme "Information Society" – Call No.65, 2004-2005, technical supervision.

[GR-S2] "Polymnia – New music tools and music portal", 2003-2005, Co-funded by the General Secretariat of Research and Development and the European Union, technical supervision.

[GR-S1] "Eureka: ECH:TOPICC/Endangered Cultural Heritage: Tools For Preservation, Investigation And Copyrights Clearance", EUREKA, Sub-Umbrella EUROCARE, 2002-2005, technical supervision.

6.2.2 Member of the scientific team

[GR-C39] "FIREFLY - Fostering vIrtual heRitage Experience For eLderlY", programme Greece 2.0, Basic Research Financing Action (Horizontal support of all Sciences), Sub-action 1: Funding New Researchers, 2023-2025.

[GR-C38] "Developing environmental consciousness through STEM training in students in Pomak villages and in the wider area of Xanthi", co-funder by the National Geographic, Green Fund and The Hellenic Initiative / The Venture Impact Awards 2021, 2021-2022.

[GR-C37] "PERIPLOUS: Autonomous guided and narrated tour over the sunken city of Epidaurus", Operational Programme Competitiveness, Entrepreneurship and Innovation 2014-2020 (EPAnEK), Special Action "Open Innovation In Culture" 2020-2023.

[GR-C36] "myEleusis - unveil the secrets of ancient Eleusis with leading-edge technologies", co-financed by Greece and European Union in the framework of the Operational Programme "Competitiveness, Entrepreneurship and Innovation" 2019-2022.

[GR-C35] "XR-Labs - Virtual labs with interactive technologies in virtual, mixed and augmented reality environments", Operational Programme Western Greece 2019-2020.

[GR-C34] "APTOS - Innovative Methods of Accessing Cultural Heritage for Visually Impaired People", 2020-2022, MIS code 5052055, co-financed by Greece and European Union in the framework of the Operational Programme "Competitiveness, Entrepreneurship and Innovation" 2014-2020.

[GR-C33] "ESTIA: Disaster Management Platform for Cultural Heritage Sites", 2018-2021, MIS code 5031814, co-financed by Greece and European Union in the framework of the Operational Programme "Competitiveness, Entrepreneurship and Innovation" 2014-2020.

[GR-C32] "Center for Integrated Digital Management of Cultural Heritage" in the Priority Axis "Immediate hindering the contraction of productive / business activity, strengthening the attractiveness, competitiveness and extroversion of the Region's islands, especially small and medium-sized enterprises and increasing regional added value, innovation", operational programme of the North Aegean, MIS code 5021534, 2018-2021.

[GR-C31] "3DOR – 3D Object Retrieval", Thales Programme, Democritus University of Thrace, 2012-2014.

[GR-C30] "Information and support for the involvement of repatriated Greeks of the Municipality of Xanthi in the Digital Age", Local Authorities Union of Xanthi District, 2005-2006, Seminar courses and storyboards for the development of interactive multimedia CDROM title.

[GR-C29] "Study and Creation of Prototype Museum Toolkits", Thrace-Aegean-Cyprus 2004-2005 Programme, 2005-2006, Scenario, storyboards, production and processing of multimedia content for the development of multimedia CDROM title.

[GR-C28] "MULTI-MINE: Network of research and technological training in technologies of retrieval and management of knowledge from Multimedia", General Secretariat of Research and Development / European Union, 2005, Seminar courses.

[GR-C27] "Nautilus", Thrace-Aegean-Cyprus 2004-2005 Programme, 2004-2006, Processing of multimedia content and web site.

[GR-C26] "Byzantine Mani: Digitization of Ecclesiastical Monuments of Mani", Ministry of Culture, 2004-2005, 3D digitization of monuments.

[GR-C25] "E-LEARNING LAND – An Integrated Virtual Environment for Supporting On-Line Learning Communities (exploiting interoperable repositories of educational resources)", Co-funded by the General Secretariat for Research and Technology and the European Union, 2004-2005, Development of web portal.

[GR-C24] "Enhancement of studies on informatics in the Democritus University of Thrace", Ministry of Education, 2004, Development and adaptation of printed and electronic material.

[GR-C23] "Rhodian Amphorae", Archaeological Institute of Aegean Studies, 2004, Development of database for Rhodian Amphorae.

[GR-C22] "E-QUALity - Supporting the customization of Mass Media and employees in the area of Northeast Greece: Telework – Teleconference", National Documentation Centre, 2003-2005, Scenario, storyboards, production and processing of multimedia content and development of interactive multimedia CDROM title.

[GR-C21] "E-QUALity - Supporting the customization of Mass Media and employees in the area of Northeast Greece: Reconciliation of Family and Work", Ministry of Employment / National Documentation Centre, 2003-2005, Scenario, storyboards, production and processing of multimedia content and development of interactive multimedia CDROM title.

[GR-C20] "Thrace in the Hellenic Parliament", The Hellenic Parliament, 2003, Scenario and storyboards for the development of an interactive multimedia CDROM title.

[GR-C19] "Maganeia 2003 – Presentation of non-widespread Olympic Sports", CETI/Athena RC, 2003, Scenario, storyboards, production and processing of multimedia processing and development of interactive multimedia CDROM title.

[GR-C18] "Karabournaki: Recording the past", CETI/Athena RC, 2002-2004, 2D and 3D digitization, reconstruction and representation, tools for archival, dynamic internet-based database with GIS capabilities.

[GR-C17] "Improvement of the infrastructure of the electrical circuits analysis laboratory", Engineers and Public Constructors Pension Fund of Greece, 2002-2003, Improvement of the infrastructure.

[GR-C16] "Training of educators in the exploitation of Technologies of Information & Communication (ICT) in the Education", Operational Programme Information Society, 2002, Courses in work packages 41-001-03 and 41-001-04.

[GR-C15] "Traditional Wood Craftsmen and Trade in the Aegean, Thrace and Cyprus", THRACE-AEGEAN-CYPRUS 2001-2002 Programme, 2001-2003, Multimedia content production.

[GR-C14] "METAEICON. Transmission of images through the web, Phase B", SYN 98, 2001, Image transmission research.

[GR-C13] "Study of satellite broadband networks LEO/MEO for cellular multimedia telecommunication systems", General Secretariat of Research and Development (PENED '99, Code: 99ED443), 2000-2001, National Observatory of Athens, Development of coding techniques for color multimedia data.

[GR-C12] "Improvement of the infrastructure of the electrical circuits analysis laboratory", Engineers and Public Constructors Pension Fund of Greece, 2000-2001, Development of software for digital image processing.

[GR-C11] "PROMETHEUS", Ministry of Education, 1999, Democritus University of Thrace, Development and upgrade of the web site of central library of Democritus University of Thrace.

[GR-C10] "SIRENS Phase B: COSMOS", Ministry of Education, 1998, Livanis Publications, Scenario, storyboards, production and processing of multimedia content and implementation of dynamic interactive multimedia title on CDROM.

[GR-C9] "SIRENS Phase B: The Gymnasium Physics Lab as a technological centre of global communication and learning", Ministry of Education, 1998, Scenario, storyboards, production and processing of multimedia content and programming of dynamic interactive multimedia title on CDROM.

[GR-C8] "Development of system for cultural documentation system and dissemination of monuments and works of art", General Secretariat of Research and Development (PENED '95) – National Gallery of Greece, 1997-1998, Scenario, storyboards, production and processing of multimedia content and development of dynamic interactive multimedia title on CDROM.

[GR-C7] "Reformation of the curriculum of the Department of Physical Education and Sport Science of Democritus University of Thrace", Ministry of Education / Department of Physical Education and Sport Science of Democritus University of Thrace, 1997-1998, Scenario, storyboards, production and processing of multimedia content and development of three interactive multimedia CDROM titles.

[GR-C6] "The Gymnasium Physics Lab as a technological centre of global communication and learning", Ministry of Education, 1997, Software analysis.

[GR-C5] "ARTEMIS: Integrated system for monitoring and optimizing production processes in paper-industry", General Secretariat of Research and Development, 1997, Data collection, development of database and software.

[GR-C4] "Thracian Electronic Thesaurus, History and Culture, Nature, Tourism", General Secretariat of Research and Development, 1996-1998, Scenario, storyboards for interactive multimedia CDROM title and dynamic internet application.

[GR-C3] "Development of infrastructure for the digital imaging and multimedia laboratory", Engineers and Public Constructors Pension Fund of Greece, 1996, Web server.

[GR-C2] "New methods in the efficiency of teaching methods", OPAP S.A. and Department of Physical Education and Sport Science of Democritus University of Thrace, 1994-1995, Scenario, storyboards, production and processing of multimedia content and development of interactive multimedia CDROM title.

[GR-C1] "Remotely operated vehicle for underwater tasks", Democritus University of Thrace, 1993, Development of control software to drive sensors of underwater vehicle.

6.3 Private projects and services

[PR-S13] "Vendis - Cultural Routes in the Old Town of Xanthi", contract with Omega Technology SA, funded by the Greek Public Investments Program, 2023-2024.

[PR-S12] "3D-Chios - digitisation of monuments and artefacts", contract with SpectraTech SA within the project "Promotion of museums and monuments of Chios through interactive digital applications and services", funded by the Greek Public Investments Program, 2022.

[PR-S11] "Specifications for necessary hardware and software for the operation of border post (Koulia) Kompotiou as Municipal History Centre", 2012, Tender Contract, Municipality Nicholas Skoufa

[PR-S10] 2D and 3D digitization of monuments and objects for the Diocese of Zihni, Greece, 2012, Tender Contract, Echmi SA.

[PR-S9] 2D and 3D digitization of monuments and objects for the Diocese of Alexandroupolis, Greece, 2012, Tender Contract, Prisma Electronics SA.

[PR-S8] Technical consultation of the Municipal Development Services of the Municipality of Xanthi, Greece for the development of the project "Child museum and historical archive", 2010.

[PR-S7] Technical consultation of the Municipality of Xanthi, Greece for the evaluation of tenders for the project "Geographical Information System for the Municipality of Xanthi", 2008.

[PR-S6] "Programme of further education of the administrative personnel of Democritus University of Thrace", Democritus University of Thrace, 2001, Seminar courses (CorelDraw).

[PR-S5] "Laboratory experiments in computers", National Youth Foundation, 1998, Training of educators in the usage of the Internet.

[PR-S4] "Computerisation of services of the Department of Environmental Engineering of Democritus University of Thrace", Democritus University of Thrace, 1997, Development and upgrade of applications for the administrative services.

[PR-S3] "The Atlas of Greece", Livanis Publications, 1996-1997, Scenario, storyboards, production and processing of multimedia content and development of interactive multimedia title on CDROM, ISBN: 960-7534-10-7.

[PR-S2] "System to support cardio-vascular operations", General Secretariat of Research and Development – Ergo Medical, 1996, Real-time graphics software development.

[PR-S1] "Reorganization and computerization of administrative services of Democritus University of Thrace", Democritus University of Thrace, 1991-1992, Development and upgrade of applications for the administrative services.

7 Innovation and technology transfer actions

7.1 Products

[PROD2] "Thrace, Thracian Electronic Thesaurus", 1998, Livanis Publications, ISBN: 960-7534-19-0.

[PROD1] "The Atlas of Greece", 1997, Livanis Publications, ISBN: 960-7534-10-7.

8 Analysis of research work

- **3D digitization and reconstruction of cultural assets (objects, monuments, architectural, urban areas, excavations/archaeological sites, open spaces)**. Research and development in cultural digitization at every scale, geometric complexity and materials, with emphasis on 3D measurements of surface geometry and texture for accurate recording of reality, using both laser techniques (triangulation, time-of-flight) and terrestrial and aerial multi-image photogrammetry (shape from motion, shape from silhouette, shape from structured light).

    – Related projects: [EU-S1], [EU-C9], [GR-C34], [GR-C19], [GR-C20], [GR-C32], [GR-C17], [EU-C8], [EU-C6], [EU-C5], [EU-C4], [EU-C3], [EU-C2], [GR-S13], [GR-S12], [GR-S11], [GR-S8], [GR-S7], [GR-S3], [GR-S2], [GR-C31], [GR-C26], [GR-C18], [PR-S13], [PR-S12], [PR-S10], [PR-S9]

    – Related publications: books [KP19; KP16], book chapters [Pav23; PK22; PR18; Lir+17], journal articles [Myl+23; Kou+21b; Lir+16; Kou+14; Str+14; Pav+07b; Pav+07a; Tsi+04c; Tsi+03b], conference papers [Kon+17a; Kon+17b; Pav+09; Kou+08a; CPK08; Rak+08; Kou+08b; Kou+07b; Arn+06; Pav+06b; Tsi+05; Tsi+04a; Tsi+04b; Tsi+03a; Ant+03; Tsi+02b; Tsi+02a; Pol+02; Tsi+01]

- **Artificial intelligence, machine learning, ambient intelligence and applications**. Research and development on innovative intelligence systems, machine learning and multiagent systems, organization and control of industrial production, NLP, ambient intelligence and applications in cultural heritage.

    – Related projects: [EU-S1], [GR-S22], [GR-S21], [GR-S18], [GR-S16], [GR-C5], [GR-C2], [GR-C1]

    – Related publications: book chapters [Pav23; KPM20; KKP16a], journal articles [Ana+23; Kar+23; TVP22; Mar+21b; Mar+21a; Kri+21b; Nou+20; Pav19a; CPM19; SP19; KKP19; Pav19b; CPM17; Pav15a; CMP12a], conference papers [Kar+22a; Tor+21; Pav18a; SP18; Pav18b; Pav19d; Pav19c; Kio+17a; KPK16; KKP19; PMS14; CMP12b; MCP12; Pav+12; MP94]

- **Integrated management, study and dissemination of cultural heritage**. Research and development of innovative applications for visualization, study and management of cultural heritage with emphasis on multi-layered visualization of multidimensional data in virtual environments. Includes research and development of interactive visual representations and environments for content-based retrieval and virtual navigation within complex 3D objects or sets. This section also includes innovative culture-tourism applications.

  - Related projects: [EU-S1], [GR-S22], [GR-C37], [GR-C36], [GR-C34], [GR-C19], [GR-C20], [GR-S18], [GR-S16], [GR-S17], [GR-C33], [EU-C9], [EU-C8], [EU-C6], [GR-S14], [GR-S13], [GR-S12], [GR-S11], [GR-S8], [GR-C26]
  - Related publications: books [Pav20], book chapters [Pav23; Mar+20], journal articles [Pav+22; Pis+21; PM20; Pav+18; MMP17; PS15; KAP14; KMP12; Kou+12; PPC04; Tsi+03b], conference papers [KP11; Pav+09; Arn+03; Tsi+02a]

- **Virtual museums with innovative dynamic mechanisms**. Research and development of virtual exhibitions and museums based on virtual reality techniques (3D virtual non-immersive environments) with dominant component the dynamic nature of both the content (the 3D exhibits) and their placement in the virtual space along with the topology of the virtual space.

  - Related projects: [GR-S14], [GR-S13]
  - Related publications: book chapters [Pav23], journal articles [Kio+17b; Kio+16; KKP16b; KMP12], conference papers [Kio+17a; Kio+15a; Kio+15b; Pav+08; Pav+06c]

- **2D/3D image analysis and innovative content-based retrieval applications**. Research in the field of multimedia content analysis to extract descriptors for shape, color, etc., and development of innovative retrieval applications based on the content for static 2D images and 3D models. Includes research on analysis of multimedia databases and innovative visualization and management applications based on non-immersive virtual reality.

  - Related projects: [GR-S5]
  - Related publications: journal articles [KMP12; Kou+12; Kou+10; Kou+09], conference papers [KP11; KPC10; Kou+08c; Kou+07a; Pav+06a]

- **Culture-technology-education**. Research in the unification of metadata formats and techniques in educational technology and game-based learning to develop innovative applications in education by exploiting rich cultural content. It includes research and development on purely educational technology and the combination of interactive multimedia and the educational process.

  - Related projects: [GR-C35], [GR-C20], [GR-S14], [GR-C29], [GR-C27], [GR-C26], [GR-C20], [GR-C19]
  - Related publications: book chapters [Kio+20b; PLL17], journal articles [Mar+16; PS15], conference papers [SPL17; Kio+15a; Pav15b; PM15; Kio+15b; Pet+15; Pan+15; Lir+15; MCP12; MP04]

- **Integrated digital excavation systems**. Research and development on unifying the management of archaeological excavation data integrated with online services, geographic systems, 2D/3D digitization and reconstruction, stand-alone/offline digital recording techniques of archaeological journals, etc.

- – Related projects: [GR-C18]
- – Related publications: conference papers [Tsi+04a; Tsi+04b; Tsi+03a; Ant+03]

- **Geographical systems and predictive modeling in cultural heritage**. Research on archaeological data related to geographic information for developing multi-criteria predictive modeling techniques to identify sites of archaeological interest and avoid catastrophic interventions in modern residential development. It includes the development of innovative applications of geographical information systems to cultural tourism.

  - – Related projects: -
  - – Related publications: journal articles [Bal+14b; Bal+14a; Bal+13c; Bal+13b], conference papers [Bal+13a; Bal+12a; Bal+12b; Bal+06]

- **Educational technology**. Research and development in areas relating to education and life-long learning

  - – Related projects: [GR-C38], [GR-C35], [EU-C1], [GR-S15], [GR-C25], [GR-C22], [GR-C21], [GR-C11], [GR-C10], [GR-C9], [GR-C8], [GR-C7], [GR-C6], [GR-C2], [PR-S3]
  - – Related publications: books chapters [Kio+20b; PM18], journal articles [Mar+16], conference papers [TP16; Pav15b; PM15; Pan+15; Lir+15; MCP12; MP04]

- **Computer vision and image processing applications**. Research and development on computer vision in quality control, in content-analysis, in segmentation and compression of 2D/3D images

  - – Related projects: [GR-S16], [GR-S5], [GR-C31], [GR-C14], [GR-C13]
  - – Related publications: books [Pav22f; Pav21; Pav16; Pav04], journal articles [Pav15a; Pav+05; PC05; PPC04; Pav+03], conference papers [Ioa+18; PMS14; Kou+07a; Pav+06a; Pav+02b; Pav+01]

9 Integrated research outcomes widely available

9.1 Software systems

9.1.1 Multimedia titles

[MM23] Multi-language cross-platform and web-enabled multimedia application for info-kiosks within the project "CORECT: Common Religious Cultural Pathways", 2013.

[MM22] 3D reconstruction and virtual tour of the city of Argostoli before its complete destruction of 1953, 2008.

[MM21] Multimedia application for two info-kiosks within the project "Creation of interactive multimedia applications in the Archaeological Museum of Arta and installation of info-kiosks", 2008 (Greek, English, Italian).

[MM20] Dynamic non-immersive virtual reality info-kiosk application (virtual museum) under the scope of the project "Petrimus3D: Virtual representation of Natural History Museum of the Lesvos Petrified Forest", 2008 (Greek, English, German).

[MM19] Multimedia application (educational game) "Costumes of my region" under the project "Study and Creation of Prototype Museum Toolkits", 2006 (Greek).

[MM18] Multimedia application (an educational game) "Nautilus" under the project "Nautilus", 2006 (Greek).

[MM17] Development of a dynamic non-immersive virtual reality application (virtual exhibition) for Greek traditional musical instruments, under the project "Polymnia - New Music Tools and Music Portal", 2005 (Greek).

[MM16] Multimedia title "Telecommuting – Teleconference", under the project "E-QUALity - Supporting the adaptability of workers and SMEs in north-eastern Greece", 2005 (Greek).

[MM15] "Reconciling family and work", under the project "E-QUALity - Supporting the adaptability of workers and SMEs in north-eastern Greece", 2005 (Greek).

[MM14] Multimedia title "Maganeia 2003 - Presentation of non-widespread Olympic Sports", 2003 (Greek).

[MM13] Multimedia title under the project "SIRENS Second phase: Physics Laboratory as a global technology centre for communication and learning", 1999-2001 (Greek).

[MM12] Multimedia title under the project "SIRENS Second phase: COSMOS", 1999-2000 (Greek).

[MM11] Three multimedia titles: "Physiology", "Psychology" and "Health in Sports", under the project "Reformation of the curriculum of the Department of Physical Education and Sport Science of Democritus University of Thrace", 1999 (Greek).

[MM10] Participation in the implementation of multimedia title "Thrace in the Hellenic Parliament", 1999 (Greek).

[MM9] Multimedia title "Child in Greek Art" in collaboration with the National Art Gallery & Al. Soutzos Museum (Department of Art Conservation and Restoration of Works of Art), 1998 (Greek - English).

[MM8] Multimedia title "Atlas of Greece" for Livanis Publishing Organization, 1997 (Greek), ISBN: 960-7534-10-7.

[MM7] Multimedia title "Basketball Courses with Multimedia", Dept. of Physical Education and Sports Science of Democritus University of Thrace, 1996 (Greek).

[MM6] Multimedia title for the demonstration of project "Thracian Electronic Thesaurus, History and Culture, Environment, Tourism", exhibition InfoSystem - HiTech 1996 (Greek).

[MM5] Multimedia title for the presentation of the third International Congress of Physical Education and Sports, Dept. of Physical Education and Sports Science of Democritus University of Thrace, May 1995 (Greek - English).

[MM4] Multimedia title for the presentation of the Hellenic Export Promotion Organization, 1994 (Greek).

[MM3] Multimedia educational title "Multimedia using multimedia", application for presentations at seminars, 1994-1996 (Greek).

[MM2] Multimedia title for the presentation of the National Productivity Centre (Kavala Annex), 1994 (Greek).

[MM1] Multimedia title "Treasures of the Great Meteoro", collaboration with the Apostolic Diakonia of the Church of Greece, 1994 (Greek).

9.1.2 Web applications and platforms

[WEB23] Educational portal for the set of postgraduate courses in "Cultural Informatics", 2016 (Greek).

[WEB22] Platform for the presentation of 3D reconstructions based on photographic techniques, 2014 (English).

[WEB21] Educational portal for the postgraduate course "Mobile Communications", 2013 (English).

[WEB20] Educational portal for the postgraduate course "Web applications design", 2013 (English).

[WEB19] Educational portal for the course "Digital signal Processing", 2012 (Greek).

[WEB18] Educational portal for the course "Pattern recognition – neural networks", 2012 (Greek), (Greek).

[WEB17] Educational communication portal for graduate, diploma and post-graduate theses, 2012 (Greek).

[WEB16] Educational Facebook application for the course "Multimedia", 2010, (Greek).

[WEB15] Educational Facebook application for the course "Digital Photography and Image Processing", 2010, (Greek).

[WEB14] Personal portal, (English).

[WEB13] Series of educational websites for the courses:

- "Computers"
- "Programming with MATLAB"
- "Multimedia"
- "Digital Photography"

[WEB12] Personal website for Greek islands promotion based on dynamic web programming and Google technologies, 2009 (English).

[WEB11] Web-based virtual walkthrough "Virtual Argostoli", 2008.

[WEB10] Educational website for the demonstration of teaching "Recognition" in Homer's Odyssey, in Literature and in Science, 2007 (Greek).

[WEB9] Portal of the project "Digitech III-2 – Internet application for the demonstration and education in three-dimensional digitization technologies", 2005 (Greek, English).

[WEB8] Website "Nautilus" for the homonymous project, 2006 (Greek).

[WEB7] Website "Digitech III – Study of technologies of three-dimensional digitization", 2005 (Greek, English).

[WEB6] Website "Virtual Museum of Greek Traditional Musical Instruments", 2005 (Greek).

[WEB5] Web-based virtual walkthrough in Byzantine churches in Mani, Greece, 2005 (English).

[WEB4] Digital excavation website "Karabournaki: Recording the past", 2004 (Greek, English).

[WEB3] Central Library of Democritus University of Thrace website, 1999 (Greek).

[WEB2] Website "Thracian Electronic Thesaurus – History and Culture, Nature, Tourism", 1998 (Greek, English).

[WEB1] Cultural website "Peloponnesian Folklore Foundation", 1997 (English).

9.1.3   Smart mobile device applications

[MOB5] "i-Health" – app for the remote monitoring of medical data online and based on JSON data interchange protocol in collaboration with a specific kit for medical data measurements (English), 2014, Apple App Store, Android edition available at the Google Play Store.

[MOB4] "Tiny remote monitor" – app for the remote monitoring of environmental quantities through the web using smart data interchange (English), 2014, Google Play Store.

[MOB3] "Old Town of Xanthi Guide" – app of tourist information for the Old Town of Xanthi, Greece, based on QR-Codes' identification (English), 2014, Google Play Store.

[MOB2] "Vision" – educational and testing app for facial recognition using OpenCV (English), 2013, Google Play Store.

[MOB1] "Serres Guide" – app for information and guidance towards available pharmacies and gas stations for the town of Serres, Greece(Greek), 2013, Google Play Store.

9.1.4   Computerization, industrial applications and automation

[IND10] Prototype application for the quality control of the *mastiha of Chios* (MATLAB), 2014.

[IND9] Various Arduino automation projects.

[IND8] Customer management software - application to hair salon, 2003.

[IND7] Complete software package for business management - application to car service, 1996.

[IND6] Business management application for military use, 1997.

[IND5] Permits/punishments management software for the Army, 1994.

[IND4] Software for the production organization and management of SEKAP tobacco industry, 1993.

[IND3] Design and implementation of software for the simulation and control of the tobacco kiln system for SEKAP tobacco industry, 1993.

[IND2] Software for the computerization of services of Democritus University of Thrace (Dept. of Electrical and Computer Engineering, Dept. of the Environmental Engineering) and technical support, 1992-1995.

[IND1] Software for budget management T/DE of Democritus University of Thrace, 1992.

10 Scientific publications

10.1 Treatises, books, edited volumes, and dissertations

[Pav22f] **G. Pavlidis**. *Foundations of Photography: A Treatise on the Technical Aspects of Digital Photography.* https://link.springer.com/book/10.1007/978-3-031-06252-0. Springer, 2022. ISBN: 9783031062520.

[Pav21] **G. Pavlidis**. *A Brief History of Colour Theory: Foundations of Colour Science.* https://rd.springer.com/book/10.1007/978-3-030-87771-2. Springer, 2021. ISBN: 9783030877705.

[Pav20] **G. Pavlidis**, ed. *Applying Innovative Technologies in Heritage Science.* https://doi.org/10.4018/978-1-7998-2871-6. IGI-Global, 2020. ISBN: 9781799828716.

[KP19] A. Koutsoudis and **G. Pavlidis**. *3D digitization (second edition, Greek).* Tsotras Publications, 2019. ISBN: 9786185309510.

[KP16] A. Koutsoudis and **G. Pavlidis**. *3D digitization (Greek).* Tsotras Publications, 2016. ISBN: 9786185066482.

[Pav16] **G. Pavlidis**. *Mixed Raster Content: Segmentation, Compression, Transmission.* https://doi.org/10.1007/978-981-10-2830-4. Springer, 2016. ISBN: 9789811028298.

[Pav04] **G. Pavlidis**. "Segmentation of colour images (Greek)". https://www.didaktorika.gr/eadd/handle/10442/20214. PhD thesis. Department of Electrical and Computer Engineering, Democritus University of Thrace, 2004.

[Pav94] **G. Pavlidis**. *Simulation of motion and control panel for an underwater remotely operated vehicle (Greek).* 1994.

10.2 Book chapters

[Pav23] **G. Pavlidis**. "From Digital Recording to Advanced AI Applications in Archaeology and Cultural Heritage". In: *"And in Length of Days Understanding" (Job 12:12): Essays on Archaeology in the Eastern Mediterranean and Beyond in Honor of Thomas E. Levy.* Ed. by E. Ben-Yosef and I. W. N. Jones. Cham: Springer International Publishing, 2023, pp. 1627–1656. ISBN: 978-3-031-27330-8. DOI: 10.1007/978-3-031-27330-8_69. URL: https://doi.org/10.1007/978-3-031-27330-8_69.

[PK22] **G. Pavlidis** and A. Koutsoudis. "3D Digitization of Tangible Heritage". In: *Handbook of Cultural Heritage Analysis.* Springer, Cham., 2022, pp. 1363–1404.

[KPM20] C. Kiourt, **G. Pavlidis**, and S. Markantonatou. "Deep learning approaches in food recognition". In: *Machine Learning Paradigms - Advances in Theory and Applications of Deep Learning.* Springer, 2020.

[Kio+20b] C. Kiourt, H. G. Theodoropoulou, A. Koutsoudis, J. A. Ioannakis, **G. Pavlidis**, and D. Kalles. "Exploiting Cross-Reality Technologies for Cultural Heritage Dissemination". In: *Applying Innovative Technologies in Heritage Science.* IGI Global, 2020, pp. 85–108.

[Mar+20] S. Markantonatou, S. Donig, **G. Pavlidis**, T. Gees, and A. Koumpis. "Ten Challenges for Digital Humanities and the Way Forward: Revisited From the Social Context". In: *Applying Innovative Technologies in Heritage Science.* IGI Global, 2020, pp. 297–305.

[Pav19d]   **G. Pavlidis**. "Towards a novel user satisfaction modelling for museum visit recommender systems". In: *Duguleană M., Carrozzino M., Gams M., Tanea I. (eds) VR Technologies in Cultural Heritage. VRTCH 2018. Communications in Computer and Information Science.* Vol. 904. Springer, Cham, 2019, pp. 60–75.

[PM18]   **G. Pavlidis** and S. Markantonatou. "Playful education and innovative gamified learning approaches". In: *Handbook of Research on Educational Design and Cloud Computing in Modern Classroom Settings.* IGI Global, 2018, pp. 321–341.

[Lir+17]   I. Liritzis, **G. Pavlidis**, S. Vosinakis, A. Koutsoudis, P. Volonakis, M. D. Howland, B. Liss, and T. E. Levy. "Delphi4Delphi: Data Acquisition of Spatial Cultural Heritage Data for Ancient Delphi, Greece". In: *Heritage and Archaeology in the Digital Age: Acquisition, Curation, and Dissemination of Spatial Cultural Heritage Data.* Springer International Publishing, 2017, pp. 151–165.

[PLL17]   **G. Pavlidis**, I. Liritzis, and T. E. Levy. "Pedagogy and Engagement in At-Risk World Heritage Initiatives". In: *Heritage and Archaeology in the Digital Age: Acquisition, Curation, and Dissemination of Spatial Cultural Heritage Data.* Springer International Publishing, 2017, pp. 167–183.

10.3   Peer-reviewed journal articles

[Ana+23]   I. Anastasaki, G. Drosatos, **G. Pavlidis**, and K. Rantos. "User Authentication Mechanisms Based on Immersive Technologies: A Systematic Review". In: *Information* 14.10 (2023), p. 538.

[Ara+23a]   V. Arampatzakis, **G. Pavlidis**, N. Mitianoudis, and N. Papamarkos. "Monocular Depth Estimation: A Thorough Review". In: *IEEE Transactions on Pattern Analysis and Machine Intelligence* (2023).

[Ara+23b]   V. Arampatzakis, **G. Pavlidis**, K. Pantoglou, N. Mitianoudis, and N. Papamarkos. "Towards Explainability in Monocular Depth Estimation". In: *arXiv preprint arXiv:2310.16457* (2023).

[Kar+23]   I. Karamanlis, A. Kokkalis, V. Profillidis, G. Botzoris, C. Kiourt, V. Sevetlidis, and **G. Pavlidis**. "Deep Learning-Based Black Spot Identification on Greek Road Networks". In: *Data* 8.6 (2023), p. 110.

[Mor+23]   E. Moraitou, M. Konstantakis, A. Chrysanthi, Y. Christodoulou, **G. Pavlidis**, G. Alexandridis, K. Kotsopoulos, N. Papastamatiou, A. Papadimitriou, and G. Caridakis. "Supporting the Conservation and Restoration OpenLab of the Acropolis of Ancient Tiryns through Data Modelling and Exploitation of Digital Media". In: *Computers* 12.5 (2023), p. 96.

[Myl+23]   G. Mylonas, A. Kalogeras, **G. Pavlidis**, A. Lalos, and A. García-López. "Digital Twins for Protecting Cultural Heritage Against Climate Change". In: *Computer* 56.9 (2023), pp. 100–104.

[Pis+23]   P. Pistofidis, F. Arnaoutoglou, G. Ioannakis, N. Michailidou, M. Karta, C. Kiourt, **G. Pavlidis**, S. G. Mouroutsos, D. Tsiafaki, and A. Koutsoudis. "Design and evaluation of smart-exhibit systems that enrich cultural heritage experiences for the visually impaired". In: *Journal of Cultural Heritage* 60 (2023), pp. 1–11.

[PPG23]   M. B. Prados-Peña, **G. Pavlidis**, and A. García-López. "New technologies for the conservation and preservation of cultural heritage through a bibliometric analysis". In: *Journal of Cultural Heritage Management and Sustainable Development* (2023).

[Pav22c]   **G. Pavlidis**. "AI trends in digital humanities research". In: *Trends in Computer Science and Information Technology* 7.2 (2022), pp. 26–34.

[Pav+22]   **G. Pavlidis**, A. Solomou, S. Stamouli, V. Papavassiliou, K. Kritsis, C. Kiourt, V. Sevetlidis, G. Karetsos, P. Trigas, K. Kougioumoutzis, et al. "Sustainable ecotourism through cutting-edge technologies". In: *Sustainability* 14.2 (2022), p. 800.

[Sev+22]   V. Sevetlidis, **G. Pavlidis**, S. Mouroutsos, and A. Gasteratos. "Tackling Dataset Bias With an Automated Collection of Real-World Samples". In: *IEEE Access* 10 (2022), pp. 126832–126844.

[TVP22]   A. Tsimpiris, D. Varsamis, and **G. Pavlidis**. "Tesseract OCR Evaluation on Greek Food Menus Datasets". In: *International Journal of Computing and Optimization* 9.1 (2022), pp. 13–32.

[Kou+21b]   A. Koutsoudis, G. Ioannakis, P. Pistofidis, F. Arnaoutoglou, N. Kazakis, **G. Pavlidis**, C. Chamzas, and N. Tsirliganis. "Multispectral aerial imagery-based 3D digitisation, segmentation and annotation of large scale urban areas of significant cultural value". In: *Journal of Cultural Heritage* 49 (2021), pp. 1–9.

[Kri+21a]   P. Krimpas, N. Konstantinidis, R. Karahoga, S. Markantonatou, and **G. Pavlidis**. "Pomak: An idiosyncratic East South Slavic language?" In: (2021).

[Kri+21b]   K. Kritsis, C. Kiourt, S. Stamouli, V. Sevetlidis, A. Solomou, G. Karetsos, V. Katsouros, and **G. Pavlidis**. "GRASP-125: A Dataset for Greek Vascular Plant Recognition in Natural Environment". In: *Sustainability* 13.21 (2021), p. 11865.

[Mar+21a]   S. Markantonatou, K. Toraki, P. Minos, A. Vacalopoulou, V. Stamou, and **G. Pavlidis**. "ΑΜΑΛΘΕΙΑ: A Dish-Driven Ontology in the Food Domain". In: *Data* 6.4 (2021), p. 41.

[Mar+21b]   S. Markantonatou, K. Toraki, V. Stamou, and **G. Pavlidis**. "The semantic and syntactic ingredients of Greek dish names: Are compounds a main choice?" In: *Open Linguistics* 7.1 (2021), pp. 116–135.

[Pis+21]   P. Pistofidis, G. Ioannakis, F. Arnaoutoglou, N. Michailidou, M. Karta, C. Kiourt, **G. Pavlidis**, S. G. Mouroutsos, D. Tsiafaki, and A. Koutsoudis. "Composing smart museum exhibit specifications for the visually impaired". In: *Journal of Cultural Heritage* 52 (2021), pp. 1–10.

[Tor+21]   K. Toraki, S. Markantonatou, A. Vacalopoulou, P. Minos, and **G. Pavlidis**. "Issues in linking a thesaurus of Macedonian and Thracian gastronomy with the Langual system". In: *EURALEX XIX* (2021).

[Nou+20]   S. Nousias, G. Arvanitis, A. S. Lalos, **G. Pavlidis**, C. Koulamas, A. Kalogeras, and K. Moustakas. "A saliency aware CNN-based 3d model simplification and compression framework for remote inspection of heritage sites". In: *IEEE Access* 8 (2020), pp. 169982–170001.

[PM20]   **G. Pavlidis** and S. Markantonatou. "Gastronomic tourism in Greece and beyond: A thorough review". In: *International Journal of Gastronomy and Food Science* 21 (2020), p. 100229.

[CPM19]   M. Charalampidou, **G. Pavlidis**, and S. G. Mouroutsos. "Sensor Analysis and Selection for Open Space WSN Security Applications." In: *Majlesi Journal of Electrical Engineering* 13.1 (2019).

[KKP19]   C. Kiourt, D. Kalles, and **G. Pavlidis**. "Rating the skill of synthetic agents in competitive multi-agent environments". In: *Knowledge and Information Systems* 58.1 (2019), pp. 35–58.

[Pav19a]   **G. Pavlidis**. "On the End-to-End Development of a Cultural Tourism Recommender". In: *International Journal of Computational Methods in Heritage Science (IJCMHS)* 3.2 (2019), pp. 73–90.

[Pav19b]   **G. Pavlidis**. "Recommender systems, cultural heritage applications, and the way forward". In: *Journal of Cultural Heritage* 35 (2019), pp. 183–196.

[SP19]   V. Sevetlidis and **G. Pavlidis**. "Effective Raman Spectra Identification with Tree-Based Methods". In: *Journal of Cultural Heritage* 37 (2019), pp. 121–128.

[Pav+18]   **G. Pavlidis**, S. Markantonatou, S. Donig, and A. Koumpis. "Ten Challenges for Digital Humanities and the Way Forward". In: *International Journal of Computational Methods in Heritage Science (IJCMHS)* 2.1 (2018), pp. 1–7.

[PR18]   **G. Pavlidis** and S. Royo. "3D depth sensing". In: *Digital Techniques for Documenting and Preserving Cultural Heritage* (2018), p. 195.

[CPM17]   M. Charalampidou, **G. Pavlidis**, and S. G. Mouroutsos. "A novel modular wireless sensor networks approach for security applications". In: *International Journal of Security and Networks* 12.1 (2017), pp. 40–50.

[Kio+17b]   C. Kiourt, **G. Pavlidis**, A. Koutsoudis, and D. Kalles. "Realistic simulation of cultural heritage". In: *International Journal of Computational Methods in Heritage Science (IJCMHS)* 1.1 (2017), pp. 10–40.

[Kon+17a]   G. Kontogianni, R. Chliverou, A. Koutsoudis, **G. Pavlidis**, and A. Georgopoulos. "Enhancing close-up image based 3D digitisation with focus stacking". In: *The International Archives of Photogrammetry, Remote Sensing and Spatial Information Sciences* 42 (2017), pp. 421–425.

[Kon+17b]   G. Kontogianni, R. Chliverou, A. Koutsoudis, **G. Pavlidis**, and A. Georgopoulos. "Investigating the effect of focus stacking on SFM-MVS algorithms". In: *The International Archives of Photogrammetry, Remote Sensing and Spatial Information Sciences* 42 (2017), p. 385.

[MMP17]   S. Markantonatou, P. Minos, and **G. Pavlidis**. "Retrieving Structured Information from (Semi-)/(Un-) Structured Cultural Object Documentation". In: *International Journal of Computational Methods in Heritage Science (IJCMHS)* 1.1 (2017), pp. 89–99.

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