Christos Diou



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Education

2005-2010 PhD in Electrical and Computer Engineering

Aristotle University of Thessaloniki

Thesis: "Semantic Analysis of Multimedia Data with Machine Learning". The thesis studies the problem of automated concept-based multimedia retrieval and proposes concept detector models based on cascades of classifiers and on audiovisual attribute extractors. Furthermore, the thesis proposes training concept detector models using clickthrough data collected from search engines.

Grade: Excellent

1999-2004 Diploma in Electrical and Computer Engineering

Aristotle University of Thessaloniki

Diploma thesis: "Controlling Complexity and Validity in Semantic Multimedia Search". The thesis presents and evaluates a set of algorithms for controlling complexity during semantic indexing of multimedia data.

Thesis grade: 10/10 Diploma grade: 8.35/10

Positions

2024-today	Associate Professor: Department of Informatics and Telematics, Harokopio University of Athens, Greece
2020-2024	Assistant Professor: Department of Informatics and Telematics, Harokopio University of Athens, Greece
2013-2020	Research fellow and adjunct professor: Multimedia Understanding Group, Information Processing Lab, Electrical and

Computer Engineering Department, Aristotle University of Thessaloniki, Greece

2011-2013 Postdoctoral researcher:

Information Technologies Institute, Centre for Research and Technology Hellas, Greece

2005-2011 Research associate:

Multimedia Understanding Group, Information Processing Lab, Electrical and Computer Engineering Department, Aristotle University of Thessaloniki, Greece

Research projects

2024-2028

MELIORA: Multimodal Engagement and sustainable Lifestyle Interventions Optimizing breast cancer Risk reduction supported by Artificial intelligence

Funding: European Commission, Horizon Europe

Role: Task leader for "Causal recommendation engine for delivering personalised awareness and education material"

R&D Activities: Development of a causal recommendation engine, capable of (a) delivering context-sensitive recommendations / interventions, targeting behavioral change to reduce the risk for breast cancer and (b) adapting recommendation models to individuals belonging to under-represented population groups.

Website: https://cordis.europa.eu/project/id/101136791

2023-2026

HumAIne: Hybrid Human-AI Decision Support for Enhanced Human Empowerment in Dynamic Situations.

Funding: European Commission, Horizon Europe

Role: Task leader for "Benchmarking Suite for Human-AI models"

R&D Activities: The team will be responsible for developing an innovative, automated Human-AI collaboration benchmark. The benchmark will include parametrised synthetic surrogate human agents, which will simulate multiple types of human users (at least 5 agent types for at least 5 tasks and datasets). The benchmark will be developed using tasks and open datasets which are relevant to the HumAIne pilots (manufacturing, smart cities, healthcare, finance, and energy).

Website: https://humaine-horizon.eu/

2023-2027

BETTER4U: Preventing obesity through Biologically and bEhaviorally Tailored inTERventions for you.

Funding: European Commission, Horizon Europe

Role: Development of the BETTER4U causal model

R&D Activities: Integration of diverse existing datasets including genetic and lifestyle data from over 1M individuals. Development of a causal model for weight gain using retrospectively collected data. Methods for addressing issues with missing data, low representation of population, and for identification of optimal

behavioural change interventions taking into account individual compliance.

Website: https://cordis.europa.eu/project/id/101080117

2022-2026

RELEVIUM: Improving quality of life of advanced pancreatic cancer patients through an AI-guided multimodal intervention, combining pain and cachexia management, nutrition, and physical activity.

Funding: European Commission, Horizon Europe

Role: PI for HUA. Leader of WP1 "Analysis of needs and technology deployment", participation in tasks related to the development of AI-guided monitoring and decision-support tools

R&D Activities: The HUA team will (a) define the system specifications, and will coordinate the technology development and deployment, (b) lead the development of behavior monitoring tools related to the nutrition and physical activity of the patients, (c) support a feasibility and data collection study that will enable the development of innovative machine learning algorithms for pain and cachexia monitoring (d) will participate in the development of AI-based algorithms for early warning on patient deterioration. The tools that will be developed during the project will be part of a multi-modal intervention that will be evaluated in a multi-centre randomized controlled clinical trial involving 5 different countries.

Website: https://www.releviumproject.eu/

2021-2025

REBECCA: REsearch on BrEast Cancer induced chronic conditions supported by Causal Analysis of multi-source data. Develop technologies and methods to assess the safety and effectiveness of interventions as well as determinants of the quality of life of breast cancer patients using "real world data", i.e. data not collected for the purposes of clinical research. Pilot application in three populations in Norway, Spain and Sweden.

Funding: European Commission, Horizon 2020

Role: PI for HUA. Leader of WP4 "Causal inference and prediction using RWD" R&D Activities: HUA will develop methods for causal modeling of observational real-world data to determine causal relations between clinical, psychological and patient-reported outcomes and interventions in breast cancer survivors. The focus is on the management of chronic conditions caused by cancer, the first line as well as the secondary treatment in breast cancer patients. Data include data from electronic health records, registry data and biobank data, data from wearable devices, self-reported data, physical and online behavior data, as well as environment data (including the urban, home and socioeconomic environments). The more general ambition is to develop methods for using such rich but noisy and diverse data sources in order to guide clinical and health policy decision in cases where Randomized Controlled Trials are hard or impossible (due to the inability to control all the variables, as well as due to financial and ethical reasons).

Website: https://rebeccaproject.eu/

2016-2021

BigO: Big data against childhood obesity. Development of population-level behaviour monitoring system for evidence-based policy decision support against

childhood obesity.

Funding: European Commission, Horizon 2020 **Role:** Leader of work package "Analytics and visualisation engine" responsible for signal processing, big data analysis and visualisation. Served as the project's innovation manager. Responsible for the design of the system architecture.

R&D Activities: Machine learning for behavioural indicator extraction from accelerometer, gyroscope and GPS signals from mobiles and smartwatches for eating (detect eating occurrences and in-meal bites), activity types, transportation mode, types of visited locations, sleep patterns. Development of behavioural profiles. Distances between behavioural profiles. Privacy-aware learning (centralised learning without collecting sensitive data from participants). Model explainability for nonlinear models. Modelling of noise and uncertainty at the classifier level. Test error bounds for fuzzy SVMs. Development in python, scala (for Apache Spark) and Java (for web services).

Website: https://bigoprogram.eu/

2018-2020

eeRIS: A household energy consumption information system. Development of an electrical energy disaggregation system for detailed monitoring and feedback regarding electrical energy consumption in households.

Funding: Greek Secreteriat on Research and Technology Role: Part of the coordinating team (Power Systems Lab, ECE, AUTH). Development of a power disaggregation module that decomposes electrical installation-level active and reactive power measurements into the consumption of individual household appliances with minimum user feedback (unsupervised and semi-supervised learning algorithms).

R&D Activities: Developed a baseline method for online unsupervised training of NILM models based on Hart's algorithm. Backend system developed in python.

2013-2016

SPLENDID: Personalised guide for eating and activity behaviour for the prevention of obesity and eating disorders. Development of a detailed eating and activity behaviour monitoring and guidance system to prevent obesity and eating disorders.

Funding: European Commission, FP7 **Role:** Leader of work package "Information processing and inference", responsible for extracting behavioural indicators from signals and for building data-driven behavioural models.

R&D Activities: Development of a new chewing sensor using an in-ear microphone, PPG and accelerometer signals (in collaboration with CSEM S.A.). Development of signal processing and machine learning algorithms to identify chews, snacks and food structure. Development of algorithms for analysing inmeal eating behaviour using a plate scale (Mandometer). Also, development of models for detecting potentially high-risk behaviour across multiple indicators.

Website: https://splendid-program.eu/

2011-2013

CASSANDRA: A multivariate platform for assessing the impact of strategic decisions in electrical power systems. A consumption behaviour modelling platform for residential and small-scale commercial electricity consumers. The platform's purpose is to assess the effectiveness of feedback and pricing incentives for peak reduction in demand-response programmes.

Funding: European Commission, FP7 **Role:** Responsible for coordination of technical work and piloting activities across 9 different partners. Responsible for the development of small-scale electricity consumer models.

R&D Activities: Probabilistic electrical energy consumer models that support simulation and response modelling in different pricing models (demand response). Experiments using data collected from two pilot deployments at a residential building in Luleå, Sweden and a mall near Milan, Italy.

2007-2010

VITALAS: Video and image indexing and retrieval in the large scale. An image and video retrieval engine for large multimedia archives. Includes similarity search and cross-media concept-based retrieval.

Funding: European Commission, FP6 **Role:** Research and development of the cross-media concept-based image and video retrieval system.

R&D Activities: Cross-media concept-based indexing and retrieval of images and videos. Concept detectors for 500 concepts using small training sets. Use of cross-domain classifiers to reduce need for large training set sizes. Use of clickthrough data for automatically generating training sets for image retrieval. Explore the noise levels in automatically generated training sets and how to handle this at the classifier level. The modules that were deployed were developed in C.

Website: http://vitalas.ercim.eu/

2006-2007

ASSIST: Association studies assisted by inference and semantic technologies. Design and development of a system for the unification of heterogeneous medical archives in the cervical cancer domain.

Funding: European Commission, FP6 **Role:** Development of the system specifications. Participation in the design of the system ontology.

R&D Activities: System design and system specifications. Development of an ontology (in OWL) for association studies in the cervical cancer domain.

Current research interests

Domain generalization of ML models: The aim is to train models that robustly identify the target classes/values under data distribution shifts or changes in the data domain (e.g., different statistics of the background in natural images, different source/device in the case of biosignals)

Applications of AI and ML in Health: Examples include (a) representation learning for processing unstructured health data (such as signals), (b) modeling of dietary and physical activity behavior from wearables and videos and (c) exploring the capabilities of combining structural causal models and machine learning for developing explainable causal disease models from multiple sources of observational data.

ML model explainability: Development of new methods to communicate and/or visualize the characteristics of so-called "black-box" ML models, to provide intuition regarding their behavior. More specifically, the focus is on models for global and regional explainability, as well as in the development of effective, explainable-by-design models.

Causal modeling in ML: In this emerging and ambitious field we wish to replace the traditional i.i.d. data assumption of statistical machine learning with more relaxed assumptions about underlying causal structures within each problem domain. This would lead to solutions on several modern ML problems such as generalization, continual and task incremental learning, robustness to adversarial attacks, and possibly model bias and explainability.

Fairness in ML models handling multiple modalities: We try to develop methods for bias mitigation, focusing on in-processing methods to remove association bias (e.g., visual features that are spuriously correlated with the target class). Effort is made to handle protected attributes at the representation level, in order to be able to handle (a) limited or non-existent labels of the protected attribute and (b) visual/signal attributes that introduce bias but are not clearly defined.

Teaching

Harokopio University of Athens

2020-2024

- Machine Learning and Applications (undergraduate)
- Artificial Intelligence (undergraduate)
- Health and Communication Technologies (undergraduate and postgraduate). Module jointly taught with Rutgers University
- Programming I (undergraduate)
- Artificial Intelligence and Applications on the Internet of Things (postgraduate)
- Artificial Intelligence and Deep Learning in Healthcare (postgraduate)
- Data Management II (postgraduate Applied Informatics)
- Computational Intelligence and Cognitive Computing (postgraduate MPhil in Computer Science)

Previous teaching experience

I have designed and taught the following courses at the Electrical and Computer Engineering Department, Aristotle University of Thessaloniki, Greece:

2018-2019	Internet of Things and Applications (postgraduate, independent teaching of 40% of the course)
2018-2019	Machine learning (postgraduate, independent teaching of the entire course)
2017-2018	Multimedia Systems (undergraduate, independent teaching of the entire course)

2016-2017	Human-Computer Interaction (postgraduate, independent teaching of the entire course)
2016-2017	Multimedia Systems and Graphics (postgraduate, independent teaching of the entire course)
2005-2009	Algorithm design and analysis (undergraduate, teaching assistant)
2005-2007	Computer systems (undergraduate, teaching assistant)

PhD students

Ordered by starting date:

- Niki Kiriakidou
- Aristotelis Ballas
- Vasileios Gkolemis
- Ioannis Sarridis

Other

- Supervised 23 undergraduate and 9 postgraduate (MSc) theses at DIT/HUA
- Co-supervised 3 PhD theses (completed) at the Aristotle University of Thessaloniki (main supervisor: Anastasios Delopoulos).
- Supervised and co-supervised several undergraduate diploma theses and postgraduate master theses at the Harokopio University of Athens and the Aristotle University of Thessaloniki.
- I have been a training instructor for machine learning at Veltio SA (http://www.veltio.com) for a year in 2017.

Academic activities

Workshops

- ECML-PKDD 2023 workshop: "Uncertainty meets Explainability in Machine Learning"
 - https://xai-uncertainty.github.io

Reviewer for International Journals

- IEEE Transactions on Neural Networks and Learning Systems
- IEEE Transactions on Artificial Intelligence
- IEEE Transactions on Image Processing
- IEEE Transactions on Multimedia
- IEEE Access
- IEEE Transactions on Cybernetics
- IEEE Journal of Biomedical and Health Informatics
- Nature Scientific Reports
- ACM Transactions on Multimedia
- ACM-Springer Multimedia Systems
- Artificial Intelligence
- Computer Methods and Programs in Biomedicine
- Engineering Applications of Artificial Intelligence
- Knowledge-Based Systems
- Pattern Recognition
- SpringerPlus
- Service-Oriented Computing and Applications
- International Journal of Neural Systems
- Multimedia Tools and Applications
- JMIR mHealth and uHealth
- Journal of Medical Internet Research
- MDPI Sensors
- MDPI Nutrients
- Energy Efficiency
- International Journal of Computer Systems Science and Engineering
- International Journal of Metadata, Semantics and Ontologies

Conference PC member/reviewer

- CVPR 2025
- ICCV 2025
- ECAI 2023, 2024, 2025
- ICMR 2023, 2024
- ECML-PKDD 2022, 2024, 2025
- ECCV 2022, 2024
- AIAI 2022, 2023, 2024
- IEEE BHI 2019, 2022
- ACM-MM/MADiMa workshop, 2022, 2023
- IEEE PICom 2019, 2021, 2022
- IEEE PAIW 2022
- IEEE SITIS 2013-2022
- IEEE ROMAN 2022
- ACM SIGIR 2010, 2012
- IEEE SMAP 2006
- ICARCV-2006

Talks / invited lectures

- "Using regional effect plots for machine learning model interpretation: The Effector python package", Keynote speech at the IAUS 397 "UniversAI" conference of the International Astronomers Union, 2025
- "Using Real-World Data and Causal Models to Support Research on the Quality of Life of Breast Cancer Patients", Keynote Speech at the Norwegian National Network for Breast Cancer Research, 2024
- "Bias in machine learning: Detection and mitigation in health data". Full day lecture and workshop for the "Diet, physical activity and disease prevention interventions, mHealth and eHealth" postgraduate course at Karolinska Institute, 2024
- "New methods for global interpretability of differentiable machine learning models", invited talk at the "Data science for decision support in uncertain environment" workshop, Department of Mathematics, University of Patras, 2023.

- "Uncertainty meets Explainability in Machine Learning", introductory talk at the corresponding ECML-PKDD workshop, Sep. 2023
- Invited 3-hour lecture at the "Summer: Rutgers-Health Communication & Health Inequalities Across the Health Professions in Greece & the U.S.", summer school, 2023
- "A short tutorial on Domain Generalization", invited tutorial at IEEE BigDataservice 2023 (with Aristotelis Ballas)
- "Artificial Intelligence for Healthcare and Applications in the Study of Childhood Obesity" (in Greek), Conference of Child and Adolescent Endocrinology, 2023
- "Applications of Artificial Intelligence in Endocrinology and Measurement of Dietetic Behavior" (in Greek), Annual Greek Paediatritian College Conference, 2023
- "Artificial Intelligence and Machine Learning for Objective Intake Monitoring", Invited talk at ICONSD 2022, May. 2022
- "New Methods for Objective Measurements of Eating Behavior in Free-Living Conditions", Invited talk at SSIB 2021, Jul 2021
- "Machine Learning for Objective Behavior Measurement and its Potential in Improving Health Communication", 1st Harokopio-Rutgers University joint e-Symposium, June 2021
- "Artificial Intelligence for Eating Behavior Monitoring (in Greek)", Seminar of the Informatics and Telematics postgraduate programme, Mar 2021
- "Big Data Against Childhood Obesity: Methods and Prospects for Use in Public Health (in Greek)", Invited talk at the 13th MSD conference, Sep. 2020

Evaluation Committees

2020-2025 Examiner for

- 1 Ph.D. thesis at the Bournemouth University, UK
- 2 Ph.D. theses at the University of Newcastle, New South Wales, Australia
- 1 Ph.D. thesis at the Department of Informatics and Telematics, Harokopio University of Athens
- 1 Ph.D. thesis at the Department of Informatics, Aristotle University of Thessaloniki
- 3 Ph.D. theses at the Electrical and Computer Engineering Department, Aristotle University of Thessaloniki

2022- Evaluator for research projects funded by the European Commission

Awards

2023	Best paper award in IEEE BigDataService 2023 for [C1] (with Anastasios Iliopoulos, Ioannis Violos and Iraklis Varlamis)
2022	Best paper award in AIAI 2022 for [C2] (with Niki Kiriakidou)
2023	Teaching award for the overall highest rated course from the Department of Informatics and Telematics, Harokopio University of Athens
2020-2022	Two consecutive teaching awards for highest-rated mandatory course from the Department of Informatics and Telematics, Harokopio University of Athens
2012	Excellence scholarship for postdoctoral research from the Aristotle University
2007	Award for academic performance by the Technical Chamber of Greece
2005-2008	Three-year scholarship by the Greek National Scholarships Foundation
1999	Scholarship for top performance (1st) in the admission exams for the Electrical and Computer Engineering Department of AUTH

Scientific Publications

The following publications have received over 1400 citations as of May, 2025, according to Google Scholar.

Thesis

[T] Christos Diou. "Semantic Analysis of Multimedia Data with Machine Learning (in Greek)". Ph.D. Thesis. Electrical and Computer Engineering Department, Aristotle university of Thessaloniki, Nov. 2010.

Journals

- [J1] Vasileios Papapanagiotou, Ioannis Sarafis, Leonidas Alagialoglou, Vasileios Gkolemis, Christos Diou, and Anastasios Delopoulos. "A system for objectively measuring behavior and the environment to support large-scale studies on childhood obesity". In: *IEEE Journal of Biomedical and Health Informatics* (2025).
- [J2] Anastasios Iliopoulos, John Violos, Christos Diou, and Iraklis Varlamis. "Feature Bagging with Nested Rotations (FBNR) for anomaly detection in multivariate time series". In: Future Generation Computer Systems 163 (2025), p. 107545. ISSN: 0167-739X.
- [J3] Aristotelis Ballas, Vasileios Papapanagiotou, and Christos Diou. "Which Augmentation Should I Use? An Empirical Investigation of Augmentations for Self-Supervised Phonocardiogram Representation Learning". In: IEEE Access (2024).

- [J4] Ioannis Sarridis, Christos Koutlis, Symeon Papadopoulos, and Christos Diou. "FLAC: Fairness-Aware Representation Learning by Suppressing Attribute-Class Associations". In: *IEEE Transactions on Pattern Analysis and Machine Intelligence* (2024), pp. 1–13.
- [J5] Niki Kiriakidou, Aristotelis Ballas, Cristina Meliá Hernando, Anna Miralles, Teta Stamati, Dimosthenis Anagnostopoulos, and Christos Diou. "A Causal Inference Methodology to Support Research on Osteopenia for Breast Cancer Patients". In: Applied Sciences 14.21 (2024), p. 9700.
- [J6] Antonios Makris, Evangelos Psomakelis, Ioannis Korontanis, Theodoros Theodoropoulos, Ioannis Kontopoulos, Maria Pateraki, Christos Diou, and Konstantinos Tserpes. "Edgedriven Docker registry: facilitating XR application deployment". In: Computing (2024), pp. 1–23.
- [J7] Georgia Ioannou, Ioulia Petrou, Maria Manou, Athanasia Tragomalou, Eleni Ramouzi, Aikaterini Vourdoumpa, et al. "Dietary and Physical Activity Habits of Children and Adolescents before and after the Implementation of a Personalized, Intervention Program for the Management of Obesity". In: Nutrients 16.20 (2024). ISSN: 2072-6643.
- [J8] Charalampos Davalas, Dimitrios Michail, Christos Diou, Iraklis Varlamis, and Konstantinos Tserpes. "A rehearsal framework for computational efficiency in online continual learning". In: *Applied Intelligence* (2024), pp. 1–17.
- [J9] Pietro Melzi, Ruben Tolosana, Ruben Vera-Rodriguez, Minchul Kim, Christian Rathgeb, Xiaoming Liu, et al. "FRCSyn-onGoing: Benchmarking and comprehensive evaluation of real and synthetic data to improve face recognition systems". In: *Information Fusion* 107 (2024), p. 102322. ISSN: 1566-2535.
- [J10] Aristotelis Ballas and Christos Diou. "Multi-Scale and Multi-Layer Contrastive Learning for Domain Generalization". In: *IEEE Transactions on Artificial Intelligence* (2024), pp. 1–14.
- [J11] Friska Dhammawati, Petter Fagerberg, Christos Diou, Ioanna Mavrouli, Evangelia Koukoula, Eirini Lekka, et al. "Ultra-Processed Food vs. Fruit and Vegetable Consumption before and during the COVID-19 Pandemic among Greek and Swedish Students". In: *Nutrients* 15.10 (2023), p. 2321.
- [J12] Polychronis Charitidis, Sotirios Moschos, Archontis Pipertzis, Ioakeim James Theologou, Michael Michailidis, Stavros Doropoulos, Christos Diou, and Stavros Vologiannidis. "StreetScouting: A Deep Learning Platform for Automatic Detection and Geotagging of Urban Features from Street-Level Images". In: *Applied Sciences* 13.1 (2023), p. 266.
- [J13] Adele R Tufford, Christos Diou, Desiree A Luccassen, Ioannis Ioakimidis, Grace O'Malley, Leonidas Alagialoglou, et al. "Towards Systems Models for Obesity Prevention: A Big Role for Big Data". In: Current Developments in Nutrition (July 2022). ISSN: 2475-2991.
- [J14] Christos Diou, Konstantinos Kyritsis, Vasileios Papapanagiotou, and Ioannis Sarafis. "Intake monitoring in free-living conditions: Overview and lessons we have learned". In: *Appetite* 176 (2022), p. 106096. ISSN: 0195-6663.
- [J15] Dimitris Filos, Irini Lekka, Vasileios Kilintzis, Leandros Stefanopoulos, Youla Karavidopoulou, Christos Maramis, et al. "Exploring Associations Between Children's Obesogenic Behaviors and the Local Environment Using Big Data: Development and Evaluation of the Obesity Prevention Dashboard". In: *JMIR Mhealth Uhealth* 9.7 (July 2021), e26290. ISSN: 2291-5222.

- [J16] Ioanna-M. Chatzigeorgiou, Christos Diou, Kyriakos C. Chatzidimitriou, and Georgios T. Andreou. "Demand Response Alert Service Based on Appliance Modeling". In: Energies 14.10 (2021). ISSN: 1996-1073.
- [J17] Petter Fagerberg, Evangelia Charmandari, Christos Diou, Rachel Heimeier, Youla Karavidopoulou, Penio Kassari, et al. "Fast Eating Is Associated with Increased BMI among High-School Students". In: *Nutrients* 13.3 (2021). ISSN: 2072-6643.
- [J18] Billy Langlet, Christos Maramis, Christos Diou, Nikolaos Maglaveras, Petter Fagerberg, Rachel Heimeier, et al. "Formative Evaluation of a Smartphone App for Monitoring Daily Meal Distribution and Food Selection in Adolescents: Acceptability and Usability Study". In: JMIR Mhealth Uhealth 8.7 (July 2020), e14778. ISSN: 2291-5222.
- [J19] Athanasia Tragomalou, George Moschonis, Yannis Manios, Penio Kassari, Ioannis Ioakimidis, Christos Diou, et al. "Novel e-Health Applications for the Management of Cardiometabolic Risk Factors in Children and Adolescents in Greece". In: *Nutrients* 12.5 (2020), p. 1380.
- [J20] Konstantinos Kyritsis, Christos Diou, and Anastasios Delopoulos. "A Data Driven Endto-end Approach for In-the-wild Monitoring of Eating Behavior Using Smartwatches". In: *IEEE Journal of Biomedical and Health Informatics* (2020).
- [J21] Billy Langlet, Petter Fagerberg, Anastasios Delopoulos, Vasileios Papapanagiotou, Christos Diou, Christos Maramis, et al. "Predicting real-life eating behaviours using single school lunches in adolescents". In: *Nutrients* 11.3 (2019), p. 672.
- [J22] Konstantinos Kyritsis, Christos Diou, and Anastasios Delopoulos. "Modeling Wrist Micromovements to Measure In-Meal Eating Behavior from Inertial Sensor Data". In: *IEEE Journal of Biomedical and Health Informatics* (2019).
- [J23] Christos Diou, Pantelis Lelekas, and Anastasios Delopoulos. "Image-Based Surrogates of Socio-Economic Status in Urban Neighborhoods Using Deep Multiple Instance Learning". In: Journal of Imaging 4.11 (2018), p. 125.
- [J24] Janet van den Boer, Annemiek van der Lee, Lingchuan Zhou, Vasileios Papapanagiotou, Christos Diou, Anastasios Delopoulos, and Monica Mars. "The SPLENDID Eating Detection Sensor: Development and Feasibility Study". In: *JMIR mHealth and uHealth* 6.9 (2018).
- [J25] Georgios Mamalakis, Christos Diou, Andreas Symeonidis, and Leonidas Georgiadis. "Of daemons and men: Reducing false positive rate in Intrusion Detection Systems with fileesystem footprint analysis". In: *Neural Computing and Applications* (2018).
- [J26] Mayram Esfandiari, Vasileios Papapanagiotou, Christos Diou, Modjtaba Zandian, Jenny Nolstam, Per Södersten, and Cecilia Bergh. "Control of Eating Behavior Using a Novel Feedback System". In: *J. Vis. Exp.* e57432.135 (2018).
- [J27] Vasileios Papapanagiotou, Christos Diou, Ioannis Ioakimidis, Per Sodersten, and Anastasios Delopoulos. "Automatic analysis of food intake and meal microstructure based on continuous weight measurements". In: *IEEE Journal of Biomedical and Health Informatics* (2018). ISSN: 2168-2194.
- [J28] Vasileios Papapanagiotou, Christos Diou, Lingchuan Zhou, Janet van den Boer, Monica Mars, and Anastasios Delopoulos. "A Novel Chewing Detection System Based on PPG, Audio, and Accelerometry". In: *IEEE Journal of Biomedical and Health Informatics* 21.3 (2017), pp. 607–618. ISSN: 2168-2194.

- [J29] Billy Langlet, Anna Anvret, Christos Maramis, Ioannis Moulos, Vasileios Papapanagiotou, Christos Diou, et al. "Objective measures of eating behaviour in a Swedish high school". In: Behaviour & Information Technology 36.10 (2017), pp. 1005–1013.
- [J30] Ioannis Sarafis, Christos Diou, and Anastasios Delopoulos. "Online training of concept detectors for image retrieval using streaming clickthrough data". In: *Engineering Applications of Artificial Intelligence (EAAI)* 51 (2016), pp. 150–162.
- [J31] Antonios Chrysopoulos, Christos Diou, Andreas L Symeonidis, and Pericles A Mitkas. "Response modeling of small-scale energy consumers for effective demand response applications". In: *Electric Power Systems Research* 132 (2016), pp. 78–93.
- [J32] Vasileios Papapanagiotou, Christos Diou, and Anastasios Delopoulos. "Improving Concept-Based Image Retrieval with Training Weights Computed from Tags". In: *ACM Transactions on Multimedia Computing, Communications, and Applications (TOMM)* 12.2 (2015), p. 32.
- [J33] Ioannis Sarafis, Christos Diou, and Anastasios Delopoulos. "Building effective SVM concept detectors from clickthrough data for large-scale image retrieval". In: *International Journal of Multimedia Information Retrieval* 4.2 (2015), pp. 129–142.
- [J34] Georgios Mamalakis, Christos Diou, Andreas L. Symeonidis, and Leonidas Georgiadis. "Of daemons and men: A file system approach towards intrusion detection". In: *Applied Soft Computing* 25.0 (2014), pp. 1–14.
- [J35] Antonios Chrysopoulos, Christos Diou, Andreas L. Symeonidis, and Pericles A. Mitkas. "Bottom-up modeling of small-scale energy consumers for effective Demand Response Applications". In: *EAAI '14* 35 (2014), pp. 299–315.
- [J36] Christos Maramis, Manolis Falelakis, Irini Lekka, Christos Diou, Pericles A. Mitkas, and Anastasios Delopoulos. "Applying semantic technologies in cervical cancer research". In: *Data Knowl. Eng.* 86 (2013), pp. 160–178.
- [J37] Theodora Tsikrika, Christos Diou, Arjen P. de Vries, and Anastasios Delopoulos. "Reliability and effectiveness of clickthrough data for automatic image annotation". In: *Multimedia Tools and Applications* 55.1 (2011), pp. 27–52.
- [J38] Christos Diou, George Stephanopoulos, Panagiotis Panagiotopoulos, Christos Papachristou, Nikos Dimitriou, and Anastasios Delopoulos. "Large-Scale Concept Detection in Multimedia Data Using Small Training Sets and Cross-Domain Concept Fusion". In: IEEE Transactions on Circuits and Systems for Video Technology 20.12 (2010), pp. 1808–1821.
- [J39] Manolis Falelakis, Christos Diou, and Anastasios Delopoulos. "Complexity control in semantic identification". In: *International Journal of Intelligent Systems Technologies and Applications* 1.3/4 (2006), pp. 247–262.
- [J40] Manolis Falelakis, Christos Diou, and Anastasios Delopoulos. "Semantic Identification: Balancing between Complexity and Validity". In: *EURASIP Journal on Advances in Signal Processing* 2006 (2006).

Book chapters

[B1] Christos Diou, Nikolaos Batalas, and Anastasios Delopoulos. "Indexing and Browsing of Color Images: Design Considerations". In: Advances in Semantic Media Adaptation and Personalization. Vol. 93. Springer, 2008, pp. 329–346.

Conference proceedings

- [C1] Anastasios Iliopoulos, John Violos, Christos Diou, and Iraklis Varlamis. "Detection of Anomalies in Multivariate Time Series Using Ensemble Techniques". In: 2023 IEEE Ninth International Conference on Big Data Computing Service and Applications (BigDataService). IEEE. 2023.
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