Elias B. Kosmatopoulos

Personal Data

Date of Birth:	April 1st 1968
Place of Birth:	Kozani, Greece
Work Address:	Department of Electrical and Computer Engineering, Democritus University of Thrace, Xanthi (Kimeria), 67100, Greece Information Technologies Institute, Centre for Technology and Research Hellas, Thessaloniki, 57001, Greece
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Marital Status:	Married with one child
Nationality	Greek

Short Vitae

Elias B. Kosmatopoulos received the Diploma, M.Sc. and Ph.D. degrees from the Technical University of Crete, Greece, in 1990, 1992, and 1995, respectively. He is currently a Professor with the Department of Electrical and Computer Engineering, Democritus University of Thrace, Xanthi, Greece. Previously, he was a faculty member of the Department of Production Engineering and Management, Technical University of Crete (TUC), Greece, a Research Assistant Professor with the Department of Electrical Engineering-Systems, University of Southern California (USC) and a Postdoctoral Fellow with the Department of Electrical & Computer Engineering, University of Victoria, B.C., Canada. Dr. Kosmatopoulos' research interests are in the areas of learning systems, adaptive optimization and control and their applications to Internet of Things; energy efficient buildings and smart grids; intelligent transportation systems; and robotic swarms. He is the author of over 55 journal papers.

Prof. Elias Kosmatopoulos, established on 2009 the ConvCao research group, an interdisciplinary group – consisted of team members with diverse background in engineering – which focuses on the development of intelligent, rapidly-deployable and self-adaptable control systems and their application to large-scale real-life systems including autonomous IoT, intelligent traffic systems, energy efficient buildings/neighborhoods and smart grids, robotic swarms and teams of cooperating humans and robots. The Convcao group currently consists of around 40 members with an annual budget of about 1.3 million Euros funded by the European Union and the private sector.

Research Priorities and Goals

The results, tools and products of Elias Kosmatopoulos and his group have been successfully implemented in a variety of real-life systems including:

- Large-scale traffic control systems where they have led to improvements (in terms of fuel consumption) of more than 50%.
- Large-scale buildings and blocks of buildings where they have led to improvements (in terms of energy bills) in the range of 20%-50%.
- Teams (swarms) of aerial and underwater robots where they have led to improvements (in terms of speed, accuracy and cost of operation) of 100% and more.
- In all of the above applications, the tools and products of the ConvCao group have minimum infrastructure requirements and - most importantly - neglected to the minimum the need for tedious and mundane human operations.

The main and central future goal of Prof. Kosmatopoulos' research is to further enhance and exploit the above mentioned results and tools towards the ***plug-n-play autonomy of Internet of Things applications***. Existing IoT application focus on data collection and analytics for extracting value from disparate Big Data which is by no means enough for fully exploiting the huge potential of the IoT. The full exploitation of the IoT potential requires moving to the next level of system architectures: large and interoperable Smart environments in which components are capable to act and adapt and are ready to cooperate towards common goals. In simple terms, Things need to be embedded with autonomy functions and be capable of executing tasks in a cooperative and distributed fashion. However, embedding Things with autonomy is not enough: current technologies for embedding autonomy within Things require high initial installation and operational costs. In other words, a second requirement is that IoT autonomy is embedded in a plug-and-play fashion, with Things being able to interoperate with the rest of the Things so as to self-configure, self-organize, self-optimize and self-healed without (or with minimum) human intervention. This is extremely important in Large IoT applications in with different administrative or operational domains (multi-Use Cases).

Teaching Priorities and Goals

Prof. Kosmatopoulos' main teaching priority is to render students capable of exploiting in real-life problems, advanced automatic control principles such as Lyapunov stability, optimal control theory and adaptive control:

- (Undergraduate level): In the undergraduate course "Control Systems II" (following the course "Control Systems I" which involves introduction into the basic control system principles), the students are introduced to the concepts of Lyapunov stability and Linear-Quadratic Control and are trained to design and analyze control systems using these two concepts. Then, in the course "Control System III" as well as as part of the their diploma thesis, the students are called to apply these concepts into real-life problems (robotics, traffic control and smart home/smart district control).

- (Graduate level): Prof. Kosmatopoulos teaches the course "Adaptive Algorithms" where the key idea is the students not only to learn and understand how adaptive and learning algorithms work but, most importantly, to be able to apply such algorithms in problems concerning their own area of research area.

Prof. Kosmatopoulos has supervised the following PhD students and PostDocs:

- Dr. Mathaios Protopappas (working now with at the private sector in Data Management and Analytics)
- Dr. Anastasios Kouvelas (Professor/Director at ETHZ)
- Dr. Kostas Aboudolas (Associate Professor at University of Thessaly)
- Dr. Simone Baldi (Assistant Professor at TU Delft)
- Dr. Iakovos Michailidis (Reseacher at CERTH)
- Dr. Athanasios Kapoutsis (Reseacher at CERTH)
- Dr. Christos Korkas (Assistant Professor at University of Western Macedonia)
- Dr. Panos Michailidis (Reseacher at CERTH)
- Dr. Dimitrios Koutras (Reseacher at CERTH)
- Dr. Emmanil Raptis (Reseacher at CERTH)

He has also served as the co-supervisor of PhD theses of

- Dr. Allessandro Renzaglia (University of Grenoble, now Reseacher at INRIA/Lyon France) and
- Dr. Johannes Fuetterer (RWTH Aachen now with Private Sector).

Educational Record

- Ph.D. in Electronics & Computer Engineering, Technical University of Crete, Greece, June 1995.
- M.Sc. in Electronics & Computer Engineering, Technical University of Crete, Greece, November 1992.
- Diploma in Production & Management Engineering, Technical University of Crete, Greece, September 1990.

Work Experience

Academic Positions

August 2014 – present	**Professor**	**Department of Electrical and Computer Engineering**	**Democritus University of Thrace, Greece**
December 2009 – August 2014	Associate Professor	Department of Electrical and Computer Engineering	Democritus University of Thrace, Greece
December 2009 – present	**Collaborative Professor**	**Information Technologies Institute**	**Center for Research and Technology, Hellas**
2006 –2009	Assistant Professor	Department of Production and Management Engineering	Technical University of Crete, Greece
2001-2006	Lecturer	Department of Production and Management Engineering	Technical University of Crete, Greece
1997-2000	Research Assistant Professor	Department of Electrical Engineering – Systems	University of Southern California, Los Angeles, USA
1996-1997	Research Associate	Center For Advanced Transportation Technologies	University of Southern California, Los Angeles, CA, USA
1995-1996	Postdoctoral Fellow	Department of Electrical and Computer Engineering	University of Victoria, Victoria, BC, Canada

Technical Consultant

1. 2007-2009, VicRoads, Australia, Implementation of a Ramp Metering Control System in Melbourne, Australia.
2. 2004.NAMA S.A., Greece, Specification of Requirements for Public Transport Priority Provision at the TRAM line in the city of Athens.
3. 2002-2006, ATKINS Transport Systems/U.K. Highways Agency, U.K., (a) Adaptive Ramp Metering Control for U.K. Motorways, (b) Variable Speed Limit Control for U.K. Motorways.
4. 2001-2003**,** DHV, Amersfoort, The Netherlands**,** Specification of Requirements for Public Transport Priority Provision at the TRAM lines in the cities of Jerusalem and Tel Aviv, Israel.
5. 2001, IBI Group, Ltd, U.K., Specification of Requirements for the Traffic Control System of Athens.
6. 1997-2000, California State University, Los Angeles, U.S.A.(a) Design of Controllers for the Mitigation of the Effects of Earthquakes in Civil Structures, NASA Project NAG-1-2029**,** (b) Hypersonic Air-vehicle Control, NASA Project # NAG2-136.
7. 1996-1997, Center for Autonomous Control Engineering, New Mexico, U.S.A.,(a) Bit Error Rate Estimation, U.S. AIR-FORCE Project F49620-96-1-0306,(b) Design and implementation of fuzzy controllers.
8. 2000, Acorn Technologies, Inc., U.S.A., Design of Hard Disc Controllers.
9. 1997-1999, PI Systems, Inc., U.S.A., Design of Adaptive Control Systems.

Applied Research Exprerience:

A. Principal Investigator or co-Principal Investigator
@ CERTH/DUTH Greece (from 2009)

1. DigiFab/101192047/HE Horizon Europe 1/1/25-31/12/28 Budget 395.625€
   Digital Process Chain for Energy Renovations Using Prefabrication (with Dr. Iakovos Michailidis)
2. MERLIN/101189796/HE Horizon Europe 1/11/24-31/10/28 Budget 500.000€
   Demonstration of long-endurance intelligent multi-purpose autonomous vehicles for marine applications (with Dr. Iakovos Michailidis)
3. SEEDS/101138211/HE Horizon Europe 1/1/24-31/12/27 Budget 422.375€
   Cost-effective and replicable RES-integrated electrified heating and cooling systems for improved energy efficiency and demand response (with Dr. Iakovos Michailidis)
4. HARMONISE/101138595/HE Horizon Europe 1/6/24-30/11/27 Budget 423.312€
   Hierarchical and Agile Resource Management Optimization for Networks in Smart Energy Communities (with Dr. Christos Korkas)
5. GINNGER/ 101123324/HE Horizon Europe 1/11/23-31/10/27 Budget 138.937€
   ReGeneratIoN of NeiGhbourhoods through placE-based appRoaches (with Dr. Iakovos Michailidis)
6. EVELIXIA/101123238/HE Horizon Europe 1/10/23-30/9/27 Budget 311.937€
   Smart Grid-Efficient Interactive Buildings (with Dr. Iakovos Michailidis)
7. TEXTaiLES/101158328/HE Horizon Europe 1/9/24-31/8/27 Budget 382.166€
   TEXTile digitisAtIon tooLs and mEthodS for cultural heritage (with Dr. Athanasios. Kapoutsis)
8. iDriving/101147004/HE Horizon Europe 1/7/24-30/6/27 Budget 211.250€
   Intelligent & Digital Roadway Infrastructure for VehiclesIntegrated with Next-Gen Technologies (with Dr. Athanasios. Kapoutsis)
9. HYPER-AI/101135982/HE Horizon Europe 1/6/24-31/3/27 Budget 539.250€
   Hyper-Distributed Artificial Intelligence Platform for Network Resources Automation and Management Towards More Efficient Data Processing Application (with Dr. Iakovos Michailidis)
10. SEED4AI National 01/02/24-28/02/26 Budget 240.000€
    Hyper-Distributed Artificial Intelligence Platform for Network Resources Automation and Management Towards More Efficient Data Processing Application (with Dr. Iakovos Michailidis)
11. TOURAL/101132489/HE Horizon Europe 1/1/24-31/12/26 Budget 146.000€
    Multidimensional model of tourism verticals driving the sustainable balanced growth among rural & remote grids and urban clusters of rural regions, fostering macro-regional cooperation (with Dr. Iakovos Michailidis)
12. NERITES/101132575/HE Horizon Europe 1/1/24-31/12/26 Budget 302.500€
    Systematic autonomous remote surveying of underwater cultural heritage monuments and artefacts using non-destructive, cost-effective and transportable digital solutions (with Dr. Iakovos Michailidis)
13. POCITYF/864400 Horizon Europe 1/10/19-30/9/26 Budget 214.500€
    A Positive Energy CITY Trasformation Framework
14. REHOUSE/101079951/HE Horizon Europe 1/10/22-30/9/26 Budget 440.875€
    Renovation packagEs for HOlistic improvement of EU's bUildingS Efficiency, maximizing RES generation and cost-effectiveness
15. MASTERPIECE /101096836/HE Horizon Europe 1/1/23-30/6/26 Budget 548.250€

Multidisciplinary Approaches and Software Technologies for Engagement, Recruitment and Participation in Innovative Energy Communities in Europe (with Dr. Iakovos Michailidis)

16. TRACE/G.A. 101104278/HE Horizon Europe 1/6/23-31/5/26 Budget 375.937€
    Integration and Harmonization of Logistics Operations
17. REACTION / 6005579 Horizon Europe 14/6/24-31/12/25 Budget 280.000€
    REal-time ArtifiCial InTellIgence for BOrders Surveillance via RPAS data aNalytics to support Law Enforcement Agencies
18. PERIVALLON /101073952/HE Horizon Europe 1/12/22-30/11/25 Budget 136.250€
    Protecting the EuROpean terrItory from organised enVironmentAl crime through inteLLigent threat detection tools
19. TREEADS/101036926 H2020 1/12/21-31/5/25 Budget 165,625€
    A Holistic Fire Management Ecosystem for Prevention, Detection and Restoration of Environmental Disasters
20. SMART2B / 101023666 H2020 1/9/21-31/8/24 Budget 414,843€
    Smartness to existing Buildings (with Dr. Iakovos Michailidis)
21. ISOLA / 883302 H2020 1/9/20-30/4/24 Budget 116,250€
    Innovative & Integrated Security System on Board Covering the Life Cycle of a Passenger Ships Voyage
22. PRECEPT / 958284 H2020 1/10/20-31/3/24 Budget 207,000€
    A novel decentrilized edge-based PREsCriptivE and ProacTive framework for increased energy efficiency and well-based in residential buildings
23. HAV National 09/09/2020-27/11/2023 Budget 233,000€
    Hellenic Autonomous Vehicle (with Professor Ioannis Pratikakis)
24. PLUG-N-HARVEST / 768735 H2020 1/9/17-30/11/22 Budget 572,151€
    PLUG-N-play passive and active multi-modal energy HARVESTing systems, circular economy by design, with high replicability for Self-sufficient Districts Near-Zero Buildings
25. ARESIBO / 833805 H2020 1/5/19-31/7/22 Budget 221,875€
    Augmented Reality Enriched Situation awareness for Border security
26. ROBORDER/740593 H2020 1/5/17-31/8/21 Budget 379,742€
27. Autonomous swarm of heterogeneous RObots for BORDER surveillance
28. VINO / T1EDK-00316 National 1/7/18-7/11/20 Budget 51,000€
    Ανάπτυξη μεθόδου διαχωρισμού και χαρτογράφησης ποικιλιών του Ελληνικού αμπελώνα αξιοποιώντας τεχνολογίες αιχμής με σκοπό την εφαρμογή Οδηγιών της ΕΕ, την ενημέρωση του Αμπελουργικού Μητρώου και την υποστήριξη προδιαγραφών ΠΟΠ
29. CALLISTO / 101004152 H2020 1/1/21-31/12/23 Budget 107,250€
    Copernicus Artificial Intelligence Services and data fusion with other distributed data sources and processing at the edge to support DIAS and HPC infrastructures
30. DIH^2 / 824964 H2020 1/1/19-30/6/23 Budget 74,935€
    A Network of Robotics DIHs for Agile Production
31. NESTOR / 101021851 H2020 1/11/21-30/4/23 Budget 200,625€
    aN Enhanced pre-frontier intelligence picture to Safeguard The EurOpean boRders
32. CREST / 833464 H2020 1/9/19-28/2/23 Budget 235,000€
    Fighting Crime and TerroRism with an IoT-enabled Autonomous Platform based on an Ecosystem of Advanced IntelligEnce, Operations, and InveStigation Technologies
33. DRIMPAC / 768559 H2020 1/9/18-31/8/22 Budget 100,058€
    Unified DR interoperability framework enabling market participation of active energy consumers
34. CoFly / 5033634 National 17/10/18-16/4/22 Budget 153,265€
    Γνωστικές λειτουργίες ιπτάμενων οχημάτων μικρού μεγέθους
35. RAWFIE / 645220 H2020 1/1/15-31/3/19 Budget 205,000€
    Road-, Air- and Water-based Future Internet Experimentation
36. EQUILY Private 1/1/18-31/5/18 Budget 43,879€

Pilot site Experiments & Evaluation

37. EQUILY Private 1/12/16-30/11/17 Budget 10,000€
    Pilot site Experiments & Evaluation
38. Local4Global/ 611538 FP7 1/10/13-31/12/16 Budget 479,545€
    Local4Global: System-of-Systems that act locally for optimising globally
39. NOPTILUS / 270180 FP7 1/4/11-30/6/15 Budget 727,177€
    AutoNomous, self-Learning, OPTImal and compLete Underwater Systems
40. AGILE / 257806 FP7 1/9/10-30/11/13 Budget 372,178€
    Rapidly-deployable, self-tuning, self-reconfigurable, nearly-optimal control design for large-scale nonlinear systems
41. sFLY / 231855 FP7 1/1/10-31/12/11 Budget 420,700€
    Swarm of Micro Flying Robots

@ TUC Greece (from 2001-2009)

1. PEBBLE FP7 2009-2022 Budget 496.000€
   Positive-Energy Buildings thru Better Control Decisions (with Prof. Rovas)
2. Study on Energy Efficiency in Road Transport Budget 25.000€
   European Commision (with Professor Markos Papagerogiou)
3. CRINNO National Budget 20,441€
   Real-time Traffic Info Systems for Taxis (with Professor Markos Papagerogiou)
4. COOPERS FP7 Budget 72,320€
   Co-operative Networks for Intelligent Road Safety
   Real-time traffic estimation and prediction using Floating Car Data, Budget 41,600€
   National (with Professor Markos Papagerogiou)
5. Development and evaluation of a new real-time traffic signal control strategy for urban road networks, Budget 45,000€
   National (with Professor Markos Papagerogiou)
6. PENED. Development and evaluation of a central flow control strategy for sewer networks with emphasis on special needs and potential applications in Greece, Budget 45,000 €
   National (with Professor Markos Papagerogiou)
7. PYTHAGORAS. Development of an integrated motorway network control system and its evaluation via microscopic simulation. Budget 60,000 €
8. National (with Professor Markos Papagerogiou)
9. ETNITE. European network for training and education in Intelligent Transportation Systems, Budget 15,000 €
   European Commision (with Professor Markos Papagerogiou)
10. EYE IN THE SKY FP6 Budget 88,374€
    ßAdvanced Data Fusion for Traffic Monitoring and Prediction (with Professor Markos Papagerogiou)

@USC, U.S.A.

1. 1999-2002. NSF (National Science Foundation). On-line Learning and Control of Partially-Known and Unknown Nonlinear Systems (with Professor Ioannou) Budget $297,700
2. 1999. USTRANSCOM/MARAD and CCDOTT at California State University, Long Beach; CATT, USC, Los Angeles, CA. Agile Port Technology Integration Budget $50,000

B. Experienced Researcher

1. 2008-2011.(Principal Investigator: Markos Papageorgiou). European Commission FP7- ICT-2007.6.2.2.NEARCTIS. Network of Excellence for Advanced Road Cooperative Traffic management in the Information Society
2. 2004-2007. (Principal Investigator: Markos Papageorgiou). European Commission (DG INFSO), R&D Programme Information Society Technologies. EURAMP. Ramp Metering for Motorway Networks. 2004-2006. (Principal Investigator: Markos Papageorgiou) European Commission (DG TREN), FP6-2002-Transport. CONNECT. Network of excellence for Coordination of concepts for new collective transport.
3. 2001-2004. (Principal Investigator: Markos Papageorgiou) European Commission (DG XIII), R&D Programme Information Society Technologies. SMART NETS. Implementation and Field-Evaluation of the Urban Traffic Control Strategy TUC in Southampton (U.K.), Munich (D) and Chania (GR). 2001-2005.(Principal Investigator: Markos Papageorgiou). European Commission (DG XIII), R&D Programme Information Society Technologies. RHYTHM. Motorway Traffic Surveillance and Control Employing Video Sensor Technology.246,000€+47,000€ (matching funds from Greek Secretariat for Research and Technology).
4. 1999. (Principal Investigator: Petros Ioannou). USTRANSCOM/MARAD and CCDOTT at California State University, Long Beach; CATT, USC, Los Angeles, CA. Agile Port Technology Integration
5. 1999. (Principal Investigator: Petros Ioannou).USTRANSCOM/MARAD and CCDOTT at California State University, Long Beach; CATT, USC, Los Angeles, CA. Agile Port Technology Integration
6. 1997-2000. (Principal Investigator: Petros Ioannou).NASA, grant #NAGW-4103, Adaptive and Neural Network methods for Decentralized Control of a Large Segmented Reflector Telescope,

C. Research Associate

1. 1995-1996. (Principal Investigator: Nikitas Dimopoulos). Canadian Cable Labs Fund and NSERC through the Collaborative R & D Program. Fault Diagnosis and Identification in Cable Television Networks, VICTORIA, BC, CANADA,.
2. 1994-1995. (Principal Investigator: Manolis Christodoulou). ESPRIT BASIC RESEARCH funded by the European Commission**.** HIMAC. Hierarchical Management and Control in Manufacturing Systems.

Patents

1. P.A. Ioannou, E.B. Kosmatopoulos, and A. M. Despain, *Servo Control Apparatus and Method using Absolute Value Input Signals*, U.S. patent No. 6,545,836 B1, April 8, 2003.

Journal Publications

1. CO2-based recommendation system for predictive ventilation schemes in different real-life building applications using deep learning, T Moustakas, K Fanaridou, GD Karatzinis, G Vougiatzis, O Bouzos, **Energy Reports** 13, 3537-3560 2025
2. Reinforcement Learning for Optimizing Renewable Energy Utilization in Buildings: A Review on Applications and Innovations, P Michailidis, I Michailidis, E Kosmatopoulos, **Energies** 18 (7), 1724, 2025
3. Ensuring real-time data integrity in Smart Building Applications: A systematic end-to-end comprehensive pipeline evaluated in numerous real-life cases, A Stefanopoulou, I Michailidis, G Karatzinis, G Lepidas, Y Boutalis, **Energy and Buildings**, 115586 2025
4. Comprehensive framework for dynamic energy assessment of building systems using IFC graphs and Modelica, P Iliadis, E Bellos, R Rotas, A Kitsopoulou, N Ziozas, N Nikolopoulos, **Journal of Building Performance Simulation,** 1-22 2025
5. RobotIQ: Empowering Mobile Robots with Human-Level Planning for Real-World Execution, EK Raptis, AC Kapoutsis, EB Kosmatopoulos, **arXiv preprint** arXiv:2502.12862 2025
6. Corrigendum to "LFG: An easy-to-use realistic synthetic LandFill Generator"[Software X Volume 28, December 2024, 101936], T Petsanis, AC Kapoutsis, EB Kosmatopoulos, **SoftwareX** 29, 102021 2025
7. LFG: An easy-to-use realistic synthetic LandFill Generator, T Petsanis, AC Kapoutsis, EB Kosmatopoulos
8. **SoftwareX** 28, 101936 2024
9. Review and Evaluation of Multi-Agent Control Applications for Energy Management in Buildings. P Michailidis, I Michailidis, E Kosmatopoulos, **Energies** (19961073) 17 (19) 4 2024
10. Simulation of Malfunctions in Home Appliances' Power Consumption, A Papaioannou, A Dimara, C Papaioannou, I Papaioannou, S Krinidis, **Energies** (19961073) 17 (17) 2024
11. A novel AI-powered method for robust identification of operational phases in refrigerators, A Papaioannou, A Dimara, S Krinidis, G Tzitziou, I Papaioannou, **Sustainable Energy, Grids and Networks** 39, 101405 1 2024
12. Improving time and energy efficiency in multi-UAV coverage operations by optimizing the UAVs' initial positions, A Stefanopoulou, EK Raptis, SD Apostolidis, S Gkelios, AC Kapoutsis, **International Journal of Intelligent Robotics and Application**s 8 (3), 629-647 2024
13. Correction to: Improving time and energy efficiency in multi-UAV coverage operations by optimizing the UAVs' initial positions, A Stefanopoulou, EK Raptis, SD Apostolidis, S Gkelios, AC Kapoutsis, **International Journal of Intelligent Robotics and Applications**, 1-9 1 2024
14. Distributed and Multi-Agent Reinforcement Learning Framework for Optimal Electric Vehicle Charging Scheduling, CD Korkas, CD Tsaknakis, AC Kapoutsis, E Kosmatopoulos, **Energies** (19961073) 3 2024
15. Passive Fault-Tolerant Augmented Neural Lyapunov Control: A method to synthesise control functions for marine vehicles affected by actuators faults, D Grande, A Peruffo, G Salavasidis, E Anderlini, D Fenucci, AB Phillips, **Control Engineering Practice** 148, 105935 5 2024
16. Overcome the fear of missing out: active sensing UAV scanning for precision agriculture, M Krestenitis, EK Raptis, AC Kapoutsis, K Ioannidis, EB Kosmatopoulos, **Robotics and Autonomous Systems** 172, 104581 7 2024

17. An Applied Framework for Smarter Buildings Exploiting a Self-Adapted Advantage Weighted Actor-Critic, I Papaioannou, A Dimara, C Korkas, I Michailidis, A Papaioannou, **Energies** 17 (3), 616 2 2024
18. Evaluating reinforcement learning algorithms in residential energy saving and comfort management, CR Lazaridis, I Michailidis, G Karatzinis, P Michailidis, E Kosmatopoulos, **Energies** 17 (3), 581 10 2024
19. Artificial neural network applications for energy management in buildings: Current trends and future directions, P Michailidis, I Michailidis, S Gkelios, E Kosmatopoulos, **Energies** 17 (3), 570 15 2024
20. Decomposing user-defined tasks in a reinforcement learning setup using TextWorld, T Petsanis, C Keroglou, A Ch. Kapoutsis, EB Kosmatopoulos, **Frontiers in Robotics and AI** 10, 1280578 2023
21. Model-free HVAC control in buildings: A review, P Michailidis, I Michailidis, D Vamvakas, E Kosmatopoulos, **Energies** 16 (20), 7124 21 2023
22. ACRE: actor-critic with reward-preserving exploration, AC Kapoutsis, DI Koutras, CD Korkas, EB Kosmatopoulos, **Neural Computing and Applications** 35 (30), 22563-22576 3 2023
23. Nearly-optimal control for energy, thermal, and storage loads with energy disaggregation monitoring: A case of residential management for the elderly, C Tsaknakis, C Korkas, K Pippi, C Athanasiadis, V Alexopoulou, **IET Smart Cities** 5 (3), 173-193 1 2023
24. Review and evaluation of reinforcement learning frameworks on smart grid applications, D Vamvakas, P Michailidis, C Korkas, E Kosmatopoulos, **Energies** 16 (14), 5326 28 2023
25. CoFly: An automated, AI-based open-source platform for UAV precision agriculture applications, EK Raptis, K Englezos, O Kypris, M Krestenitis, AC Kapoutsis, K Ioannidis, **SoftwareX** 23, 101414 15 2023
26. Systematically improving the efficiency of grid-based coverage path planning methodologies in real-world uavs' operations, SD Apostolidis, G Vougiatzis, AC Kapoutsis, SA Chatzichristofis, **Drones** 7 (6), 399 6 2023
27. A survey on technical challenges of assistive robotics for elder people in domestic environments: the aspida concept, C Keroglou, I Kansizoglou, P Michailidis, KM Oikonomou, IT Papapetros, **IEEE Transactions on Medical Robotics and Bionics** 5 (2), 196-205 24 2023
28. Neuro-distributed cognitive adaptive optimization for training neural networks in a parallel and asynchronous manner, P Michailidis, IT Michailidis, S Gkelios, G Karatzinis, EB Kosmatopoulos, **Integrated Computer-Aided Engineering** 31 (1), 19-41 4 2023
29. End-to-end precision agriculture UAV-based functionalities tailored to field characteristics, EK Raptis, M Krestenitis, K Egglezos, O Kypris, K Ioannidis, L Doitsidis**, Journal of Intelligent & Robotic Systems** 107 (2), 23 18 2023
30. Towards Optimal Planning for Green, Smart, and Semantically Enriched Cultural Tours, K Kotis, A Dimara, S Angelis, P Michailidis, I Michailidis, **Smart Cities** 6 (1), 123-136 3 2022
31. Holistic renovation of a multi-family building in Greece based on dynamic simulation analysis, E Bellos, P Iliadis, C Papalexis, R Rotas, I Mamounakis, V Sougkakis, **Journal of Cleaner Production** 381, 135202 20 2022
32. Dynamic investigation of centralized and decentralized storage systems for a district heating network, E Bellos, P Iliadis, C Papalexis, R Rotas, N Nikolopoulos, **Journal of Energy Storage** 56, 106072 17 2022
33. M Krestenitis, EK Raptis, AC Kapoutsis, K Ioannidis, EB Kosmatopoulos**, Data in Brief** 45, 108575 30 2022

34. Flexible Interlinking Converter With Enhanced FRT Capability for On-Board DC Microgrids, N Apostolidou, N Rigogiannis, N Papanikolaou, EB Kosmatopoulos, **IEEE Open Journal of Vehicular Technology** 4, 25-35 3 2022
35. Coordinating heterogeneous mobile sensing platforms for effectively monitoring a dispersed gas plume, GD Karatzinis, P Michailidis, IT Michailidis, AC Kapoutsis, **Integrated Computer-Aided Engineering** 29 (4), 411-429 7 2022
36. Dynamic simulation and performance enhancement analysis of a renewable driven trigeneration system, R Rotas, P Iliadis, N Nikolopoulos, A Tomboulides, E Kosmatopoulos, **Energies** 15 (10), 3688 4 2022
37. Integration and Verification of PLUG-N-HARVEST ICT Platform for Intelligent Management of Buildings, C Korkas, A Dimara, I Michailidis, S Krinidis, R Marin-Perez, **Energies** 15 (7), 2610 9 2022
38. Special Issue on" Recent Advances in Robust Adaptive Control", S Baldi, E Kosmatopoulos, S Roy, S Yuan, SB Roy, L Li, **International Journal of Adaptive Control & Signal Processing** 36 (2) 2 2022
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