XANTHI S. PAPAGEORGIOU, PhD

Nationality: Hellenic

Office Address:

UBITECH - The Ubiquitous Technologies Company

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University of the Aegean, School of Engineering Department of Product & Systems Design Engineering

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RESEARCH INTERESTS

Motion Tasks, Neuro-Robotics, Force Control, Compliant Control, Adaptive Control, Optimal Control, Neuroscience, Geriatric Rehabilitation, Brain - Computer Interface (BCI), eGovernance, Data Platforms, Traceability, Supply Chain, Food Safety

EDUCATION

2004 - 2009 National Technical University of Athens, Greece

PhD in Mechanical Engineering

Thesis Title: Motion Tasks for

Neuro-Robotic Systems

Advisors: Prof. K.J. Kyriakopoulos

> Prof. E. Papadopoulos Prof. N. Krikelis

1998 - 2003 National Technical University of Athens, Greece

> Dilpoma (Master of Science in Engineering) in Mechanical Engineering (10 semesters study)

Graduated in the top 5% of her class

GPA: 8.18/10.00

Thesis Title: Air Traffic Management

Using Neuro - Dynamic

Programming

Advisor: Prof. K.J. Kyriakopoulos

RESEARCH & DEVELOPMENT EXPERIENCE

10/2024 - Assistant Professor

Department of Product & Systems Design Engineering, School of Engineering, University of the Aegean, "Mechatronic Products and Systems Design"

4/2021 - Robotics Tech Leader

Head of Robotics and Cognitive Systems Unit

UBITECH - The Ubiquitous Technologies Company

Research on development of methodologies and algorithms under many HORIZON EUROPE Research and Innovaion Projects:

EVOSST: Evaluation and Valorization of Social Services for a Sustainable Transition.

ARISE: Advanced AI and RobotIcS for autonomous task pErformance.

XR5.0: Human-Centric AI-Enabled Extended Reality Applications for the Industry 5.0 Era.

MARS: Manufacturing Architecture for Resilience and Sustainability.

AI4Gov: Trusted AI for Transparent Public Governance fostering Democratic Values. inGOV: Inclusive Governance Models and ICT Tools for Integrated Public Service

Co-Creation and Provision.

GLASS: SinGLe Sign-on eGovernAnce paradigm based on a distributed file exchange network for Security, transparency, cost effectiveness and truSt.

BIMERR: BIM-based holistic tools for Energy-driven Renovation of existing Residences.

PUZZLE: Towards a Sophisticated SIEM Marketplace for Blockchain-based Threat Intelligence and Security-as-a-Service.

TheFSM: The Food Safety Market: an SME-powered industrial data platform to boost the competitiveness of European food certification.

Search & Rescue: Emerging technologies for the Early location of Entrapped victims under Collapsed Structures and Advanced Wearables for risk assessment and First Responders Safety in SAR operations.

1/2019 - 12/2021 Senior Research Fellow

Institute of Language and Speech Processing, HUBIC Lab - Human Behaviour, Interaction and Communication, "ATHENA" Research Center
Research on development of methodology and algorithm for Assistive Robotic
Systems for Elderly and Impaired Persons under the i-Walk: "Intelligent Robotic
Walker for mobility and cognitive assistance of elderly and motor-impaired people".

10/2018 - 12/2020 Senior Research Fellow

Robotics Control and Decision Systems Lab (RCDS), Department of Mechanical Engineering and Materials Science and Engineering, Cyprus University of Technology Research on development and integration of a novel system for automatic early detection of wild forest-fire using Unmanned Aerial Vehicles (UAVs). SFEDA - "Forest Monitoring System for Early Fire Detection and Assessment in the Balkan-Med Area".

3/2015 - 12/2018 Post Doctoral Researcher

Division of Signals, Control and Robotics, School of Electrical and Computer Engineering, National Tech. Univ. of Athens, Greece

Research on development and integration of an innovative, modular, ICT-supported service robotics system that supports and enhances frail older adults' motion and force abilities and assists them in successfully, safely and independently completing the entire sequence of bathing tasks under the I-SUPPORT - "ICT - Supported Bath Robots".

2/2013 - 3/2015

Post Doctoral Researcher

Division of Signals, Control and Robotics, School of Electrical and Computer Engineering, National Tech. Univ. of Athens, Greece Research on development of methodology and algorithm for Assistive Robotic Systems for Elderly and Impaired Persons under the MOBOT - "Intelligent

Active Mobility Assistance Robot integrating Multimodal Sensory Processing,

Proactive Autonomy and Adaptive Interaction".

1/2004 - 6/2009

Research Engineer

Control Sys. Lab., Mech. Eng. Dept., National Tech. Univ. of Athens, Greece Research on development of methodology and algorithm for Neuro - Robotics Systems under the NEUROBOTICS - "The Fusion of Neuroscience and Robotics for augmenting human capabilities", contract (F6-IST-001917).

1/2006 - 6/2009

Research Engineer

Control Sys. Lab., Mech. Eng. Dept., National Tech. Univ. of Athens, Greece Research on "Development of an advanced upper limb substitution system by interfacing electromyographic signals and a robot arm", under 03ED 77 research project, implemented within the framework of the "Reinforcement Programme of Human Research Manpower" (PENED), Greek Ministry of Development - General Secretariat of Research and Technology.

8/2006 - 12/2006

Visiting Research Scholar & Research Specialist/Lab

Cooperative Robotics Lab., Mech. Eng. Dept., University of New Mexico, U.S.A. Invited by Prof. Herbert G. Tanner, under a grand from Los Alamos National Lab. Conducted research on development theoretical and experimental technics for indoor radiation sensing and mapping using mobile robots and aerial vehicle. Attended Electrical and Mechanical Engineering lecture series, and supervised and guided the work of graduate students, involved in the project.

4/2002 - 12/2003

Research Engineer

Control Sys. Lab., Mech. Eng. Dept., National Tech. Univ. of Athens, Greece Research on development of an algorithm for the Centralized Air Traffic Resolution and Control under the HYBRIDGE - "Distributed Control and Stochastic Analysis of Hybrid Systems Supporting Safety Critical Real-Time Systems Design", contract (IST-2001-32460).

4/2002 - 6/2003

Undergraduate Research Assistant

Control Sys. Lab., Mech. Eng. Dept., National Tech. Univ. of Athens, Greece

7/2002 - 9/2002

Research Assistant

National Aerospace Lab, NLR, Amsterdam, Holland Research regarding analysis of Air Traffic Control Systems Resolution and Control under the HYBRIDGE - "Distributed Control and Stochastic Analysis of Hybrid Systems Supporting Safety Critical Real-Time Systems Design", contract (IST-2001-32460).

7/2001 - 9/2001

Research Assistant

Space Propulsion Group, German Aerospace Center, DLR, Germany Research regarding flows of Non-Newtonian fluids for the propulsion system of Ariane V

TEACHING EXPERIENCE

Assistant Professor (Spring 2025,)

Department of Product & Systems Design Engineering, School of Engineering, University of the Aegean, Greece Under-Graduate level Courses on Robotics and on Design and Manufacturing Technologies.

Assistant Professor (Fall 2024,)

Department of Product & Systems Design Engineering, School of Engineering, University of the Aegean, Greece Under-Graduate level Course on Mechatronics.

Adjunct Assistant Professor (Spring 2022, 2023)

School of Mechanical Engineering, National Technical University of Athens, Greece Under-Graduate level Courses on Introduction to Electronics and on Microprocessors Based Control.

Adjunct Assistant Professor (Fall 2022, 2023)

School of Mechanical Engineering, National Technical University of Athens, Greece Under-Graduate level Courses on Advanced Control and on Robotics.

Adjunct Assistant Professor (Spring 2020, 2021)

Department of Physics, National and Kapodistrian University of Athens Graduate level Course on Automatic Control Systems.

Adjunct Assistant Professor (Spring 2019, 2020)

Department of Physics, National and Kapodistrian University of Athens Under-Graduate level Course on Automatic Control Systems.

Adjunct Lecturer (Fall 2015)

School of Electrical and Computer Engineering, National Technical University of Athens, Greece Course on Robotics.

Laboratory Lecturer (Spring 2014)

School of Electrical and Computer Engineering, National Technical University of Athens, Greece Course on Robotics.

Adjunct Lecturer (Fall, Spring 2010-2014)

Department of Automation, School of Technological Applications, Technological Educational Institute of Piraeus, Greece Course on "Architecture, programming, and applications of Microcontrollers".

Adjunct Lecturer (Fall, Spring 2008-2013)

Department of Automation, School of Technological Applications, Technological Educational Institute of Piraeus, Greece Course on "Digital Control".

Teaching Assistant (Spring 2004 - 2008)

Mechanical Engineering Department, National Technical University of Athens, Greece Assisted in teaching a graduate level course on Adaptive Control.

Teaching Assistant (Fall 2005)

Mechanical Engineering Department, National Technical University of Athens, Greece Assisted in teaching a under-graduate level course on Introduction of Computer Science.

SEMINARS

19/09/2005 - 23/09/2005 Summer School on Robotics and Neuroscience, Spain

22/09/2004 - 24/09/2004 Summer School on Hybrid Systems: A Formal Paradigm for Safety Critical Embedded Systems, Greece

baiety Official Embedded Systems, Greece

 $23/06/2003 - 26/06/2003 \quad {\rm DISC\ Summer\ School\ on\ Modeling\ and\ Control\ of\ Hybrid\ Systems,\ Holland}$

RELEVANT EXPERIENCE

Presentations Presented National Technical University of Athens

research project results internationally

Computer languages Pascal, Fortran, C,

Software Platforms Mathematica, Matlab, Microsoft Office, SolidWorks

Rendering and Visualization OpenGL, 3D Studio Max

Operating Systems DOS, WINDOWS, Unix/Linux

Languages Greek: Native,

English: Very Good (F.C.E., Cambridge)

German: Elementary knowledge

SCHOLARSHIPS & ACADEMIC DISTINCTIONS

2015 - Best Paper Award, 8^{th} International Conference on Integrated Modeling and Analysis in Applied Control and Automation

2008 - Thomaidion Award for Scientific Publications

2007 - Thomaidion Award for Scientific Publications

2006 - Thomaidion Award for Scientific Publications

2005 - Thomaidion Award for Scientific Publications

2005 - Best Presentation Award, Joint 2005 International Symposium on Intelligent Control

& 13^{th} Mediterranean Conference on Control and Automation

2004 - Thomaidion Award for Scientific Publications

2004 - 2005 Eugenides Fundation Scholarship for graduate studies

2002 - 2003 Award for Academic Excellence in Engineering Sciences for the academic year 2002-2003

(Awarded by the Technical Chamber of Greece; Given to the top 5 students of every

year in each department)

2002 - 2003 Karydogianni Award for Academic Excellence in the Science of Mechanical Engineer for

the academic year 2002-2003

(Awarded by the National Technical University of Athens; Given to the best student of

every year in the Department of Mechanical Engineering)

MEMBERSHIPS AND PROFESSIONAL ACTIVITIES

Professional Associations: Member of The Institute of Electrical and Electronics Engineers

(IEEE), since 2005, (Greece Section)

Member of the IEEE Robotics and Automation Society

Member of the IEEE Control Systems Society

Member of the Technical Chamber of Greece

Reviewer: IEEE International Conference on Robotics and Automation

IEEE/RSJ International Conference on Intelligent Robots and Systems

IEEE Conference on Decision and Control

IEEE Transactions on Robotics

IEEE Transactions on Automation Science and Engineering

IFAC Automatica

Journal of Intelligent and Robotic Systems

IEEE Conference on Automation Science and Engineering

IEEE American Control Conference

IEEE European Control Conference

IEEE Mediterranean Conference on Control and Automation

IEEE RAS/EMBS International Conference on Biomedical Robotics and

Biomechatronics

Supervisor: Supervised the thesis of Diploma Mechanical & Electrical Engineering students,

Master of Science in Engineering students and PhD students and candidates

at the National Technical University of Athens.

PUBLICATIONS

Thesis

- [2] **Xanthi S. Papageorgiou**, "Motion Tasks For Neuro-Robotic Systems", *PhD Thesis*, School of Mechanical Engineering, NTUA Greece, Athens, June 2009 (in greek).
- [1] **Xanthi S. Papageorgiou**, "Air Traffic Management Using Neuro-Dynamic Programming", *Diploma Thesis*, School of Mechanical Engineering, NTUA Greece, Athens, June 2003 (in greek).

Book Chapters

- [4] Xanthi S. Papageorgiou, George Tsampounaris, Alexandra Karavasili, Eleni Efthimiou, Stavroula-Evita Fotinea, Anna Vacalopoulou, Panagiotis Karioris, Fotini Koureta, Despina Alexopoulou, Dimitris Dimou, "User-centered Implementation of Rehabilitation Exercising on an Assistive Robotic Platform", in Stephanidis C., Antona M., Gao Q., Zhou J. (eds) HCI International 2020 Late Breaking Papers: Universal Access and Inclusive Design, HCII 2020, Lecture Notes inComputer Science, vol 12426, Springer, Cham, https://doi.org/10.1007/978-3-030-60149-2_52.
- [3] George Moustris, Nikolaos Kardaris, Antigoni Tsiami, Georgia Chalvatzaki, Petros Koutras, Athanasios Dometios, Paris Oikonomou, Costas Tzafestas, Petros Maragos, Eleni Efthimiou, Xanthi S. Papageor-

- giou, Stavroula-Evita Fotinea, Yiannis Koumpouros, Anna Vacalopoulou, Alexandra Karavasili, Alexandros Nikolakakis, Konstantinos Karaiskos, Panagiotis Mavridis, "The I-Walk Assistive Robot: A Multimodal Intelligent Robotic Rollator Providing Cognitive and Mobility Assistance to the Elderly and Motor-Impaired", In: Saveriano M., Renaudo E., Rodríguez-Sánchez A., Piater J. (eds) Human-Friendly Robotics 2020. HFR 2020. Springer Proceedings in Advanced Robotics, vol. 18, pp 31-45, Springer, Cham, https://doi.org/10.1007/978-3-030-71356-0_3.
- [2] Xanthi S. Papageorgiou, Georgia Chalvatzaki, Athanasios C. Dometios, Costas S. Tzafestas, "Human-Centered Service Robotic Systems for Assisted Living", in Advances in Service and Industrial Robotics, Chapter No: 14, Lecture Notes in Computer Science, N. A. Aspragathos et al. (Eds.): RAAD 2018, MMS 67, pp. 1-9, 2019, Springer International Publishing Switzerland (2019).
- [1] Xanthi S. Papageorgiou, Costas S. Tzafestas, Petros Maragos, Georgios Pavlakos, Georgia Chalvatzaki, George Moustris, Iasonas Kokkinos, Angelika Peer, Bartlomiej Stanzyk, Evita-Stavroula Fotinea, Eleni Efthimiou, "Advances in Intelligent Mobility Assistance Robot integrating Multimodal Sensory Processing", C. Stephanidis and M. Antona (Eds.): UAHCI/HCII 2014, Part III, Lecture Notes in Computer Science: 8515, pp. 692-703, Springer International Publishing Switzerland (2014).

Journal Publications

- [15] Charithea Stylianides, Andria Nicolaou, Waqar Aziz Sulaiman, Christina-Athanasia Alexandropoulou, Ilias Panagiotopoulos, Konstantina Karathanasopoulou, George Dimitrakopoulos, Styliani Kleanthous, Elena Politi, Dimitris Ntalaperas, **Xanthi S. Papageorgiou**, Fransisco Garcia, Zinonas Antoniou, Nikos Ioannides, Lakis Palazis, Anna Vavlitou, Marios S. Pattichis, Constantinos Pattichis, Andreas S. Panayides, "AI Advances in ICU with an Emphasis on Sepsis Prediction: An Overview", *Mach. Learn. Knowl. Extr.* (ISSN 2504-4990), 2025, 7(1), 6; https://doi.org/10.3390/make7010006.
- [14] Georgia Chalvatzaki, **Xanthi S. Papageorgiou**, Costas S. Tzafestas, Petros Maragos, "Learn to adapt to human walking: A Model-based Reinforcement Learning Approach for a Robotic Assistant Rollator", *IEEE Robotics & Automation Letters*, vol. 4, no. 4, pp. 3774-3781, Oct. 2019, DOI: 10.1109/LRA.2019.2929996.
- [13] George Moustris, Nikolaos Kardaris, Antigoni Tsiami, Georgia Chalvatzaki, Petros Koutras, Thanasis Dometios, Paris Oikonomou, Costas Tzafestas, Petros Maragos, Eleni Efthimiou, Xanthi S. Papageorgiou, Stavroula-Evita Fotinea, Yiannis Koumpouros, Anna Vacalopoulou, Effie Papageorgiou, Alexandra Karavasili, Foteini Koureta, Dimitris Dimou, Alexandros Nikolakakis, Konstantinos Karaiskos, Panagiotis Mavridis, "The i-Walk Lightweight Assistive Rollator: First Evaluation Study", March 2021, Front. Robot. AI, doi:10.3389/frobt.2021.677542.
- [12] Athanasia Zlatintsi, Athanasios Dometios, Nikolaos Kardaris, Isidoros Rodomagoulakis, Petros Koutras, Xanthi S. Papageorgiou, Petros Maragos, Costas Tzafestas, Panagiotis Varholomeos, Klaus Hauer, Christian Werner, Roberta Annicchiarico, Maria Giovanna Lombardi, Fulvia Adriano, Tamim Asfour, Angelo Maria Sabatini, Cecilia Laschi, Matteo Cianchetti, Riza Alp Guler, Iasonas Kokkinos, Barbara Klein, Rafael Lopez, "I-SUPPORT: a Robotic Platform of an Assistive Bathing Robot for the Elderly Population", Robotics and Autonomous Systems, Vol. 126, 2020, 103451, https://doi.org/10.1016/j.robot.2020.103451.
- [11] Eleni Efthimiou, Xanthi S. Papageorgiou, Stavroula-Evita Fotinea, Alexandra Karavasili, Anna Vacalopoulou, Theodore Goulas, "Human Communication Driven HRI Design in a Mobility Assistance Robot", October 2019, (submitted).
- [10] George Georgiades, **Xanthi S. Papageorgiou**, Savvas Loizou, "Real Time Information Integration and Decision System for Early Forest Fire Detection and Assessment", September 2019, (submitted).
- [9] Georgia Chalvatzaki, Xanthi S. Papageorgiou, Costas S. Tzafestas, Petros Maragos, "Augmented Human State Estimation using Interacting Multiple Model Particle Filters with Probabilistic Data Association", *IEEE Robotics & Automation Letters*, Vol. 3, No. 3, July 2018, p.p. 1872 1879, DOI: 10.1109/LRA.2018.2800084.
- [8] Athanasios C. Dometios, You Zhou, **Xanthi S. Papageorgiou**, Costas S. Tzafestas, Tamim Asfour, "Vision-Based Online Adaptation of Motion Primitives to Dynamic Surfaces: Application on an Interactive Robotic Wiping Task", *IEEE Robotics & Automation Letters*, Vol. 3, No. 3, July 2018, p.p. 1410 -

- 1417, DOI: 10.1109/LRA.2018.2800031.
- [7] Christian Werner, Georgia Chalvatzaki, Xanthi S. Papageorgiou, Costas S. Tzafestas, Petros Maragos, "Assessing the Concurrent Validity of a Gait Analysis System Integrated into a Smart Walker in Older Adults with Gait Impairments", Clinical Rehabilitation, May 2019, DOI:10.1177/0269215519852143.
- [6] Georgia Chalvatzaki, **Xanthi S. Papageorgiou**, Costas S. Tzafestas, "Human Leg Tracking using Particle Filtering with Probabilistic Data Association for an Intelligent Robotic Walker", (submitted).
- [5] Xanthi S. Papageorgiou, Georgia Chalvatzaki, Costas S. Tzafestas, Petros Maragos, "Hidden Markov Modeling of Human Normal Gait using Laser Range Finder for Intelligent Mobility Assistance Robot", (submitted).
- [4] Georgia Chalvatzaki, Kevis Maninis, Effrosyni Mavroudi, Nikolaos Kardaris, **Xanthi S. Papageorgiou**, Vassilis Pitsikalis, Costas S. Tzafestas, Petros Maragos, "Elderly Care from an Intelligent Robotic Walker Using Multimodal Sensorial Data in Assisted Living", (submitted).
- [3] **Xanthi Papageorgiou**, Herbert G. Tanner, Savvas G. Loizou, Kostas J. Kyriakopoulos, "Switching Manipulator Control for Motion on Constrained Surfaces", *Journal of Intelligent and Robotic Systems*, Vol. 62, No. 2, May 2011, p.p. 217-239, DOI: 10.1007/s10846-010-9447-2.
- [2] R. Andres Cortez, **Xanthi Papageorgiou**, Herbert G. Tanner, Alexei V. Klimenko, Konstantin N. Borozdin, Ron Lumia, William C. Priedhorsky, "Smart Radiation Sensor Management: Radiation Search and Mapping using Mobile Robots", *IEEE Robotics & Automation Magazine*, Vol. 15, No. 3, September 2008, p.p. 85-93.
- [1] **Xanthi Papageorgiou**, Kostas J. Kyriakopoulos, "A Neuro-Dynamic Based Conflict Resolution Scheme for Air Traffic Management", *JASS Journal of Applied Systems Studies, Methodologies and Applications for Systems Approaches*, Vol. 6, No. 3, March 2005.

Refereed Conference Proceedings

- [58] Athanasios Kiourtis, Argyro Mavrogiorgou, Georgios Makridis, Dimosthenis Kyriazis, John Soldatos, Georgios Fatouros, Dimitrios Ntalaperas, Xanthi S. Papageorgiou, Bruno Almeida, Joana Guedes, Pedro Maló, Jorge Oliveira, Sebastian Scholze, Antonio Rosinha, Joaquim Reis, Matteo Falsetta, "XR5.0: Human-Centric AI-Enabled Extended Reality Applications for Industry 5.0", 2024 36th Conference of Open Innovations Association (FRUCT), Lappeenranta, Finland, 30 October 01 November 2024, pp. 314-323, DOI: 10.23919/FRUCT64283.2024.10749931.
- [57] Xanthi S. Papageorgiou, Dimitris Kavroulakis, Dimitris Ntalaperas, Thanassis Bouras, "A Task Restricted Hierarchical Control Scheme Facilitating Small Logistics", Proceedings of the 2024 IEEE International Conference on Robotics and Automation, Workshop: 2nd Workshop on Mobile Manipulation and Embodied Intelligence (MOMA.v2), 13 17 May 2024, Yokohama, Japan.
- [56] George Manias, Spiros Borotis, Charalampos Chatzimallis, Tanja Zdolsek Draksler, Alenka Gucek, Fabiana Fournier, Andreas Karabetian, Dimitris Kotios, Matej Kovacic, Danai Kyrkou, Lior Limonad, Konstantinos Mavrogiorgos, Dimitris Ntalaperas, Xanthi S. Papageorgiou, Dimosthenis Kyriazis, "Fostering Fundamental Human Rights and Trustworthiness though the Utilization of Emerging Technologies: the AI4Gov Platform", Global Conference On AI And Human Rights, 13 14 June 2024, Facultyof Law, University of Ljubljana, Slovenia.
- [55] **Xanthi S. Papageorgiou**, Danai Vergeti, Dimitris Ntalaperas, "Motion Tasks Representation: Extracting Knowledge from Human Experts", *Proceedings of the 2023 IEEE International Conference on Robotics and Automation, Workshop: RAP4Robots Effective representations, abstractions, and priors for robot learning, 29 May 2 June 2023, London, UK.*
- [54] Nikos Papageorgopoulos, Danai Vergeti, Elena Politi, Dimitris Ntalaperas, Xanthi S. Papageorgiou, "Securing An Agri-Food Marketplace: An Implementation of a Robust Security Layer with API Gateway Integration", Proceedings of the 2023 IEEE 9th International Conference on Control, Decision and Information Technologies, 03-06 July, 2023, Rome, Italy.

- [53] Christina-Athanasia Alexandropoulou, Ilias Panagiotopoulos, Charithea Stylianides, Styliani Kleanthous, George Dimitrakopoulos, Ioannis Constantinou, Stavri Vassiliou, Eleni Politi, Dimitrios Ntalaperas, Xanthi S. Papageorgiou, Nikos Ioannides, Lakis Palazis, Constantinos Pattichis and Andreas Panayides, "AI-enabled solutions, for predicting sepsis in ICUs: a systematic review", 2023 2023 15th Cyprus Workshop on Signal Processing and Informatics (CWSPI), July 5, 2023, Limassol, Cyprus.
- [52] Christina-Athanasia Alexandropoulou, Ilias Panagiotopoulos, Styliani Kleanthous, George Dimitrakopoulos, Ioannis Constantinou, Eleni Politi, Dimitrios Ntalaperas, **Xanthi S. Papageorgiou**, Charithea Stylianides, Nikos Ioannides, Lakis Palazis, Constantinos Pattichis and Andreas Panayides, "AI-enabled solutions, explainability and ethical concerns for predicting sepsis in ICUs: a systematic review", 2023 19th IEEE Internation Conference on e-Science eScience, October 9-14, 2023, Limassol, Cyprus, (to appear).
- [51] George Manias, Dimitris Dimitris, Sotiris Athanassopoulos, Spiros Borotis, Charalampos Chatzimallis, Theodoros Chatzipantelis, Marcelo Corrales Compagnucci, Tanja Zdolsek Draksler, Fabiana Fournier, Magdalena Goralczyk, Alenka Gucek, Andreas Karabetian, Stavroula Kefala, Dimitris Kotios, Matej Kovacic, Danai Kyrkou, Lior Limonad, Sofia Magopoulou, Konstantinos Mavrogiorgos, Vasiliki Moumtzi, Septimiu Nechifor, Dimitris Ntalaperas, Georgia Panagiotidou, Martha Papadopoulou, Xanthi S. Papageorgiou, Nikos Papageorgopoulos, Elena Politi, Vicky Stroumpou, Apostolos Vontas and Dimosthenis Kyriazis, "AI4Gov: Trusted AI for Transparent Public Governance Fostering Democratic Values", TI-2023: Next Generation IoT and AI systems for Trusted, Human-Centered Intelligence, June 19-21, 2023, Pafos, Cyprus.
- [50] Nikos Kalantzis, Nikos Papageorgopoulos, Thanos Giannakopoulos, Elena Politi, Konstantinos Tzelaptsis, Eleni Tsironi, Dimitris Ntalaperas, **Xanthi S. Papageorgiou**, "Leveraging Distributed Ledger Technologies for Enhanced Transparency and Traceability in Agri-food Supply Chains", *Proceedings of the 2023 10th European Conference on Service-Oriented and Cloud Computing*, October 24-25, 2023, Larnaca, Cyprus, (submitted).
- [49] Nikos Papageorgopoulos, Danai Vergeti, Elena Politi, Dimitris Ntalaperas, Xanthi S. Papageorgiou, Manos Karvounis, Giannis Stoitsis, Braminir Rakic, Milos Kotlar, Simeon Petrov, Antoniy Kunchev, "An Agri-Food Data Platform for Food Safety and Certification", Proceedings of the 2022 9th Annual Conference on Computational Science and Computational Intelligence, December 14-16, 2022, Las Vegas, USA.
- [48] Anagnostis Samanis, Panagiotis Trakas, Xanthi S. Papageorgiou, Kostas J. Kyriakopoulos, Charalam-pos Bechlioulis, "Learning Unknown Lagrange Dynamical Systems with Guaranteed Persistency of Excitation", Proceedings of the 2022 10th International Conference on Systems and Control, Marseille, France, November 23-25, 2022, p.p. 372-378.
- [47] Spyros Tzeranis, Panagiotis Trakas, **Xanthi S. Papageorgiou**, Kostas J. Kyriakopoulos, Charalampos Bechlioulis, "Robust Prescribed Performance Control and Adaptive Learning for the Longitudinal Dynamics of Fixed-Wing UAVs", *Proceedings of the 2022 10th International Conference on Systems and Control*, Marseille, France, November 23-25, 2022, p.p. 391-396.
- [46] **Xanthi S. Papageorgiou**, Athanasios C. Dometios, Costas S. Tzafestas, "Towards a User Adaptive Assistive Robot: Learning from Demonstration Using Navigation Functions", *Proceedings of the 2021 IEEE RSJ International Conference on Intelligent Robots and Systems*, Prague, Czech, September 27 October 1, 2021, p.p. 942-947.
- [45] George Moustris, Nikolaos Kardaris, Antigoni Tsiami, Georgia Chalvatzaki, Petros Koutras, Athanasios Dometios, Paris Oikonomou, Costas Tzafestas, Petros Maragos, Eleni Efthimiou, Xanthi S. Papageorgiou, Stavroula-Evita Fotinea, Yiannis Koumpouros, Anna Vacalopoulou, Alexandra Karavasili, Alexandros Nikolakakis, Konstantinos Karaiskos and Panagiotis Mavridis, "The i-Walk Assistive Robot: A multimodal intelligent robotic rollator providing cognitive and mobility assistance to the elderly and motorimpaired", Proceedings of the 13th International Workshop on Human-Friendly Robotics (HFR 2020), Innsbruck, Austria, October 22-23, 2020.
- [44] **Xanthi S. Papageorgiou**, George Tsampounaris, Alexandra Karavasili, Eleni Efthimiou, Stavroula-Evita Fotinea, Anna Vacalopoulou, Panagiotis Karioris, Fotini Koureta, Despina Alexopoulou, Dimitris Dimou, "User-centered Implementation of Rehabilitation Exercising on an Assistive Robotic Platform", *Proceedings of the 22nd International Conference on Human-Computer Interaction*, Copenhagen, Denmark, 19-24 July 2020.

- [43] Anna Vacalopoulou, **Xanthi S. Papageorgiou**, Stavroula-Evita Fotinea, Eleni Efthimiou, "Multimodal human data capturing in the context of building communication models for human-machine interaction and Sign Language recognition", *Workshop: Measurements in Linguistic Studies*, Athens, Greece, December 18, 2019.
- [42] Georgia Chalvatzaki, Xanthi S. Papageorgiou, Costas S. Tzafestas, Petros Maragos, "Learn to adapt to human walking: A Model-based Reinforcement Learning Approach for a Robotic Assistant Rollator", Proceedings of the 2019 IEEE/RSJ International Conference on Intelligent Robots and Systems, November 3 8, 2019, Macau, China.
- [41] Georgia Chalvatzaki, Petros Koutras, Jack Hadfield, Xanthi S. Papageorgiou, Costas S. Tzafestas, Petros Maragos, "LSTM-Based Network for Human Gait Stability Prediction in an Intelligent Robotic Rollator", Proceedings of the 2019 IEEE International Conference on Robotics and Automation, Montreal, Canada, May 20-24, 2019.
- [40] Georgia Chalvatzaki, Xanthi S. Papageorgiou, Costas S. Tzafestas, Petros Maragos, "Comparing the Impact of Robotic Rollator Control Schemes on Elderly Gait using on-line LRF-based Gait Analysis", Proceedings of the 2019 IEEE International Conference on Robotics and Automation, Workshop: MoRobAE -Mobile Robot Assistants for the Elderly, Montreal, Canada, May 20-24, 2019.
- [39] Xanthi S. Papageorgiou, Georgia Chalvatzaki, Eleni Efthimiou, Stavroula-Evita Fotinea, Alexandra Karavasili, Costas Tzafestas, Petros Maragos, Anna Vacalopoulou, Theodore Goulas, "User Centered HRI Design for an Intelligent Robotic Rollator", Proceedings of the 2019 IEEE International Conference on Robotics and Automation, Workshop: MoRobAE Mobile Robot Assistants for the Elderly, Montreal, Canada, May 20-24, 2019.
- [38] Eleni Efthimiou, Xanthi S. Papageorgiou, Stavroula-Evita Fotinea, Alexandra Karavasili, Anna Vacalopoulou, Theodore Goulas, "User Centered Design in Practice: Adapting HRI to Real User Needs", Proceedings of the 2019 International Conference on Pervasive Technologies Related to Assistive Environments, June 5-7, 2019, Island of Rhodes, Greece, ACM, New York, NY, USA, 425-429, DOI: https://doi.org/10.1145/3316782.3322778.
- [37] George Georgiades, **Xanthi S. Papageorgiou**, Savvas Loizou, "Integrated Forest Monitoring System for Early Fire Detection and Assessment", *Proceedings of the 2019 IEEE International Conference on Robotics and Automation*, Montreal, Canada, May 20-24, 2019.
- [36] Georgia Chalvatzaki, Xanthi S. Papageorgiou, Costas S. Tzafestas, Petros Maragos, "User-Adaptive Human-Robot Formation Control for an Intelligent Robotic Walker using Augmented Human State Estimation and Pathological Gait Characterization", Proceedings of the 2018 IEEE/RSJ International Conference on Intelligent Robots and Systems, 1-5 October 2018, Madrid, Spain.
- [35] Georgia Chalvatzaki, Xanthi S. Papageorgiou, Costas S. Tzafestas, Petros Maragos, "Augmented Human State Estimation using Interacting Multiple Model Particle Filters with Probabilistic Data Association", Proceedings of the 2018 IEEE International Conference on Robotics and Automation, Brisbane, Australia, 21-25 May 2018.
- [34] **Xanthi S. Papageorgiou**, Georgia Chalvatzaki, Athanasios C. Dometios, Costas S. Tzafestas, "Human-Centered Service Robotic Systems for Assisted Living", *Proceedings of the 27th International Conference on Robotics in Alpe-Adria-Danube Region*, 6-8 June 2018, Patras, Greece.
- [33] Georgia Chalvatzaki, **Xanthi S. Papageorgiou**, Costas S. Tzafestas, "Towards a User-Adaptive Context-Aware Robotic Walker with a Pathological Gait Assessment System: First Experimental Study", *Proceedings of the 2017 IEEE/RSJ International Conference on Intelligent Robots and Systems*, Vancouver, BC, Canada, September 24-28, 2017, p.p. 5037-5042.
- [32] Athanasios C. Dometios, **Xanthi S. Papageorgiou**, Antonis Arvanitakis, Costas S. Tzafestas, Petros Maragos, "Real-Time End-Effector Motion Behavior Planning Approach Using On-line Point-Cloud Data Towards a User Adaptive Assistive Bath Robot", *Proceedings of the 2017 IEEE/RSJ International Conference on Intelligent Robots and Systems*, Vancouver, BC, Canada, September 24-28, 2017, p.p. 5031-

- [31] Georgia Chalvatzaki, **Xanthi S. Papageorgiou**, Costas S. Tzafestas, Petros Maragos, "Estimating Double Support in Pathological Gaits using an HMM-based Analyzer for an Intelligent Robotic Walker", *Proceedings of the 26th IEEE International Symposium on Robot and Human Interactive Communication*, Lisbon, Portugal, 28-31 August 2017, p.p. 101-106.
- [30] Georgia Chalvatzaki, **Xanthi S. Papageorgiou**, Costas S. Tzafestas, Petros Maragos, "HMM-based Pathological Gait Analyzer for a User-Adaptive Intelligent Robotic Walker", *Proceedings of the 25th European Signal Processing Conference Workshop: "MultiLearn 2017 Multimodal processing, modeling and learning for human-computer/robot interaction applications", Island of Kos, Greece, 28 August 2 September 2017.*
- [29] Athanasios C. Dometios, Antigoni Tsiami, Antonis Arvanitakis, Panagiotis Giannoulis, Xanthi S. Papageorgiou, Costas S. Tzafestas, Petros Maragos, "Integrated Speech-based Perception System for User Adaptive Robot Motion Planning in Assistive Bath Scenarios", Proceedings of the 25th European Signal Processing Conference Workshop: "MultiLearn 2017 Multimodal processing, modeling and learning for human-computer/robot interaction applications", Island of Kos, Greece, 28 August 2 September 2017.
- [28] Xanthi S. Papageorgiou, Georgia Chalvatzaki, Athanasios C. Dometios, Costas S. Tzafestas, Petros Maragos, "Intelligent Assistive Robotic Systems for the elderly: Two real-life use cases", Workshop of the 2017 10th International Conference on Pervasive Technologies Related to Assistive Environments, "Assistive Robots: Technological Challenges and the User Perspective", June 21-23, 2017, Island of Rhodes, Greece, p.p. 360-365.
- [27] Georgia Chalvatzaki, Xanthi S. Papageorgiou, Costas S. Tzafestas, Petros Maragos, "Comparative Experimental Validation of Human Gait Tracking Algorithms for an Intelligent Robotic Rollator", Proceedings of the 2017 IEEE International Conference on Robotics and Automation, May 29 - June 3, 2017, Singapore, p.p. 6026-6031.
- [26] Athanasia Zlatintsi, Isidoros Rodomagoulakis, Vassilis Pitsikalis, Petros Koutras, Nikolaos Kardaris, **Xanthi S. Papageorgiou**, Costas S. Tzafestas, Petros Maragos, "Social human-robot interaction for the elderly: two real-life use cases", *Proceedings of the 12th Annual ACM/IEEE Conference on Human-Robot Interaction "Smart Interaction"*, March 6–9, 2017, Vienna, Austria.
- [25] Xanthi S. Papageorgiou, Georgia Chalvatzaki, Konstantinos-Nektarios Lianos, Christian Werner, Klaus Hauer, Costas S. Tzafestas, Petros Maragos, "Experimental Validation of Human Pathological Gait Analysis for an Assisted Living Intelligent Robotic Walker", Proceedings of the 6th IEEE RAS/EMBS International Conference on Biomedical Robotics and Biomechatronics, BioRob 2016, June 26 29, 2016, Singapore, p.p. 1094-1099.
- [24] Athanasios C. Dometios, Xanthi S. Papageorgiou, Costas S. Tzafestas, Panagiotis Vartholomeos, "To-wards ICT-Supported Bath Robots: Control Architecture Description and Localized Perception of User for Robot Motion Planning", Proceedings of the 24th Mediterranean Conference on Control and Automation, MED 2016, June 21 24, 2016, Athens, Greece, p.p. 713-718.
- [23] Georgia Chalvatzaki, **Xanthi S. Papageorgiou**, Christian Werner, Klaus Hauer, Costas S. Tzafestas, Petros Maragos, "Experimental Comparison of Human Gait Tracking Algorithms: Towards a Context-Aware Mobility Assistance Robotic Walker", *Proceedings of the 24th Mediterranean Conference on Control and Automation*, MED 2016, June 21 24, 2016, Athens, Greece, p.p. 719-724.
- [22] **Xanthi S. Papageorgiou**, Costas S. Tzafestas, Panagiotis Vartholomeos, Cecilia Laschi, Rafal Lopez, "ICT-Supported Bath Robots: Design Concepts", Workshop of the 2015 7th International Conference on Social Robotics, "Improving the quality of life in the elderly using robotic assistive technology: benefits, limitations, and challenges", 26 30 October 2015, Paris, France.
- [21] Xanthi S. Papageorgiou, George P. Moustris, Vassilis Pitsikalis, Georgia Chalvatzaki, Athanasios Dometios, Nikolaos Kardaris, Costas S. Tzafestas, Petros Maragos, "User-Oriented Cognitive Interaction and Control for an Intelligent Robotic Walker", Workshop of the 2015 7th International Conference on Social Robotics, "Improving the quality of life in the elderly using robotic assistive technology: benefits, limitations,

- [20] Xanthi S. Papageorgiou, Georgia Chalvatzaki, Costas S. Tzafestas, Petros Maragos, "Hidden Markov Modeling of Human Pathological Gait using Laser Range Finder for an Assisted Living Intelligent Robotic Walker", Proceedings of the 2015 IEEE/RSJ International Conference on Intelligent Robots and Systems, September 28 October 02, 2015, Hamburg, Germany, p.p. 6342-6347.
- [19] Costas S. Tzafestas, Xanthi S. Papageorgiou, George P. Moustris, Georgia Chalvatzaki, Athanasios Dometios, "User-Oriented Human-Robot Interaction for an Intelligent Walking Assistant Robotic Device", Workshop of the 2015 IEEE/RSJ International Conference on Intelligent Robots and Systems, Invited Session: "Cognitive Mobility Assistance Robots: Scientific Advances and Perspectives", Hamburg, Germany, September 28 October 02, 2015.
- [18] Georgia Chalvatzaki, Xanthi S. Papageorgiou, Costas S. Tzafestas, "Gait Modelling for a Context-Aware User-Adaptive Robotic Assistant Platform", Proceedings of the 8th International Conference on Integrated Modeling and Analysis in Applied Control and Automation, Bergeggi, Italy, September 21 - 23, 2015, (Best Paper Award).
- [17] Georgia Chalvatzaki, Georgios Pavlakos, Kevis Maninis, **Xanthi S. Papageorgiou**, Vassilis Pitsikalis, Costas S. Tzafestas, Petros Maragos, "Towards an Intelligent Robotic Walker for Assisted Living using Multimodal Sensorial Data", MOBIHEALTH 2014, 4th International Conference on Wireless Mobile Communication & Healthcare Transforming healthcare through innovations in mobile and wireless technologies, November 3 5, 2014 Athens, Greece, (**Best Student Paper Finalist**).
- [16] Xanthi S. Papageorgiou, Georgia Chalvatzaki, Costas S. Tzafestas, Petros Maragos, "Hidden Markov Modeling of Human Normal Gait using Laser Range Finder for a Mobility Assistance Robot", Proceedings of the 2014 IEEE International Conference on Robotics and Automation, Hong Kong, China, June 2014, p.p. 482-487.
- [15] Xanthi S. Papageorgiou, Costas S. Tzafestas, Petros Maragos, Georgios Pavlakos, Georgia Chalvatza-ki, George Moustris, Iasonas Kokkinos, Angelika Peer, Bartlomiej Stanzyk, Evita-Stavroula Fotinea, Eleni Efthimiou, "Advances in Intelligent Mobility Assistance Robot integrating Multimodal Sensory Processing", Proceedings of the 16th International Conference on Human-Computer Interaction, Invited Session: Multimodal interaction with assistive robots, 22 27 June 2014, Crete, Greece.
- [14] **Xanthi Papageorgiou**, Kostas J. Kyriakopoulos, "Controlling the Motion of Robot Manipulators on Constrained Surfaces", *Proceedings of IEEE 17th Mediterranean Conference on Control & Automation*, Thessaloniki, Greece, June 2009, p.p. 1331-1336.
- [13] Xanthi Papageorgiou, Panagiotis Artemiadis, Kostas J. Kyriakopoulos, "Neuro-Robotic Systems: EMG Control and Motion Planning Methodologies", Proceedings of the 1st Hellenic Robotics Conference, Athens, Greece, February 2009.
- [12] Xanthi Papageorgiou, Kostas J. Kyriakopoulos, "Compliant Motion Tasks for Robot Manipulators Subject to Joint Velocity Constraints", Proceedings of the 47th IEEE Conference on Decision and Control, Cancun, Mexico, December 2008, p.p. 4570-4575.
- [11] **Xanthi Papageorgiou**, Kostas J. Kyriakopoulos, "Motion Tasks for Robot Manipulators Subject to Joint Velocity Constraints", *Proceedings of the 2008 IEEE/RSJ International Conference on Intelligent Robots and Systems*, Nice, France, September 2008, p.p. 2139-2144.
- [10] Grigoris Lionis, Xanthi Papageorgiou, Kostas J. Kyriakopoulos, "Locally Computable Polynomial Navigation Functions for Convex Obstacle Workspaces", Proceedings of the 2008 IEEE International Conference on Robotics and Automation, Pasadena, California, May 2008, p.p. 3725-3730.
- [9] Xanthi Papageorgiou, Herbert G. Tanner, Kostas J. Kyriakopoulos, "Motion Tasks for Robot Manipulators on Embedded 2-D Manifolds under Input Constraints", Proceedings of the 2007 IEEE European Control Conference, Kos, Greece, July 2007, p.p. 3783-3789.
- [8] R. Andres Cortez, Xanthi Papageorgiou, Herbert G. Tanner, Alexei V. Klimenko, Konstantin N. Bo-

- rozdin, William C. Priedhorsky, "Experimental Implementation Of Robotic Sequential Nuclear Search", Proceedings of the IEEE 15th Mediterranean Conference on Control & Automation, Athens, Greece, June 2007.
- [7] Grigoris Lionis, Xanthi Papageorgiou, Kostas J. Kyriakopoulos, "Locally Computable Navigation Functions for Sphere Worlds", Proceedings of the 2007 IEEE International Conference on Robotics and Automation, Roma, Italy, April 2007, p.p. 1998-2003.
- [6] Xanthi Papageorgiou, Savvas G. Loizou, Kostas J. Kyriakopoulos, "Motion Tasks and Force Control for Robot Manipulators on Embedded 2-D Manifolds", Proceedings of the 2007 IEEE International Conference on Robotics and Automation, Roma, Italy, April 2007, p.p. 4202-4207.
- [5] Konstantin N. Borozdin, Alexei V. Klimenko, William C. Priedhorsky, Nicolas Hengarter, Charles C. Alexander, R. Andres Cortez, Herbert G. Tanner, Xanthi Papageorgiou, "Optimized Strategies for Smart Nuclear Search", Proceedings of the 2006 Nuclear Science Symposium, Medical Imaging Conference, October 29 November 4, 2006, San Diego, California.
- [4] Xanthi Papageorgiou, Savvas G. Loizou, Kostas J. Kyriakopoulos, "Motion Tasks for Robot Manipulators on Embedded 2-D Manifolds", Proceedings of the Joint 2006 IEEE Conference on Control Applications (CCA), 2006 IEEE Computer Aided Control Systems Design Symposium (CACSD) & 2006 IEEE International Symposium on Intelligent Control (ISIC), Munich, Germany, October 2006, p.p. 3047-3052.
- [3] **Xanthi Papageorgiou**, Joe McIntyre, Kostas J. Kyriakopoulos, "Towards Recognition of Control Variables for an Exoskeleton", *Proceedings of the Joint 2006 IEEE Conference on Control Applications (CCA)*, 2006 IEEE Computer Aided Control Systems Design Symposium(CACSD) & 2006 IEEE International Symposium on Intelligent Control (ISIC), Munich, Germany, October 2006, p.p. 3053-3058.
- [2] **Xanthi Papageorgiou**, Kostas J. Kyriakopoulos, "A Neuro-Dynamic Based Conflict Resolution Scheme for Air Traffic Management", *Proceedings of the Joint 2005 International Symposium on Intelligent Control & 13th Mediterranean Conference on Control and Automation*, Limassol, Cyprus, June 2005, p.p. 501-506.
- [1] **Xanthi Papageorgiou**, Savvas G. Loizou, Kostas J. Kyriakopoulos, "Motion Planning and Trajectory Tracking on 2-D Manifolds embedded in 3-D Workspaces", *Proceedings of the 2005 IEEE International Conference on Robotics and Automation*, Barcelona, Spain, April 2005, p.p. 419-424.

Technical Reports

- [3] A. Lecchini, **X. Papageorgiou**, J. Lygeros, J. Maciejowski, K. Kyriakopoulos, "Randomized algorithms and implementation", *Technical Report HYBRIDGE*, WP5, University of Cambridge, Deliverable D5.3, November 2004.
- [2] **Xanthi S. Papageorgiou**, "Numerical Evaluation Of Conflict Probability and Incrossing Probability in Air Traffic Management", *NLR National Aerospace Laboratory*, Amsterdam 2002.
- [1] Xanthi S. Papageorgiou, "Analysis of non-Newtonian fluids", DLR German Aerospace Center of Lampold-shausen, Lampoldshausen 2001.