

Grigorios Piperagkas

Contact information

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Residential address

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45500, Ioannina,
Greece*

Education

MEng in Computer Science and Engineering - Dept. of Computer Science and Engineering, University of Ioannina

Oct 2010 - Jul 2012

MEng in Electrical and Computer Engineering - School of Electrical and Computer Engineering, National Technical University of Athens

Oct 2003 – Nov 2009

Experience

- **Dec. 2021 - Dec. 2025: Information Technologies Institute, Centre for Research and Technology Hellas, Ioannina, Greece (www.iti.gr / www.certh.gr).** Research Associate. Smart cities and data spaces for energy communities.
- **Apr. 2022 - July 2024: Pragma-IoT SA, Thessaloniki, Greece (www.pragma-iot.com).** AI Software Engineer. Analysis, design and development of applications and systems.
- **Oct. 2018 - Sep. 2020: Institut National de Recherche en Informatique et en Automatique (INRIA) Paris, France. MiMove team (www.inria.fr).** Research associate. Leveraging middleware and the IoT for urban-scale participatory systems.
- **Jan. 2018 - Aug. 2018: Personal & Informatik AG, Ioannina, Greece (www.pi-ag.com).** Software Engineer. Human resources management software.
- **Dec. 2015 - Dec. 2017: Information Technologies Institute, Centre for Research and Technology Hellas, Thessaloniki, Greece (www.iti.gr / www.certh.gr).** Research Associate. Computer vision and robotics for assembly processes.
- **Mar. 2014 - Jun. 2015: Adsurf - Performance marketing, Ioannina, Greece.** co-founder of a small-scale local startup for online marketing.
- **Jul. 2011 – Nov. 2013: University of Ioannina, Ioannina, Greece.** Research Associate. Simulation - optimization processes for Adriatic port operations.
- **Jan. 2011 - Oct. 2012: University of Ioannina, Ioannina, Greece (www.uoi.gr).** Software/web developer.
- **Jun. 2010 - Sep. 2010: Public Power Corporation - Distribution Grid dept., Athens, Greece (www.dei.gr).** Electrical and Computer Engineer. Software administration for electric power distribution grid.

Projects

- **ITI/CERTH, DATAMITE and PATH2ZERO projects:** DATAMITE: participation and support for the final integration activities for the software developed in the project. Minor interactions with the PATH2ZERO early project stages.
- **ITI/CERTH, DATA CELLAR project:** research and development of a federated energy dataspace that will support the creation, development and management of local energy communities. Contribution on the specifications and requirements of the dataspace design. Contribution on data anonymization algorithms and data aggregation approaches, integration with validation cases.

- **Pragma-IoT SA:** research and development of on-device Deep Learning Library. Development in C++, OpenCL, Python, Java.
- **ITI/CERTH, IRIS smart city project:** participation in the final evaluation of the City Innovation Platform of the project.
- **ITI/CERTH, POCITYF project:** research and development of participatory systems and software platforms for greener, smarter and more livable cities while respecting their cultural heritage. Contribution on citizen engagement activities through a behavioural insights mechanism for positive energy districts. Development/customization of a KPI monitoring/visualization software platform. Contribution on smart cities and communities future joint vision.
- **INRIA Paris:** research in middleware and IoT technologies for urban-scale participatory systems, with application focus on social participation networks.
- **P&I AG:** experience in agile development environment for software based on customers requirements. Development in Java.
- **ITI/CERTH, SARAFun project, H2020:** research and development of robotics and computer vision applications for assembly processes. Technologies used include open source platforms and software for image and video analysis, e.g. Linux, openCV, Robot Operating System, 3D point clouds, development in C++.
- **University of Ioannina, Adriatic Port community/ SAIL project:** research and development of simulation - optimization algorithms and mathematical modelling with application in Adriatic port operation processes. Use of metaheuristic optimization algorithms and web-services. Development in C++.
- **University of Ioannina, research experience:** academic research in numerical optimization with use of metaheuristic algorithms, applied in multiple theoretical problems, e.g. supply chain. Development in C++, matlab. Results published in peer-reviewed international conferences and journals.

Publications

Journal articles

1. C. Papadopoulos, I. Mariolis, A. Topalidou-Kyniazopoulou, G.S. Piperagkas, D. Ioannidis, D. Tzouvaras, "An Advanced Human-Robot Interaction Interface for Collaborative Robotic Assembly Tasks", *Rapid Automation: Concepts, Methodologies, Tools, and Applications*, pp. 794-812, IGI Global, 2019,
2. G.S. Piperagkas, I. Mariolis, D. Ioannidis, D. Tzouvaras, "Key-frame extraction with semantic graphs in assembly processes", *IEEE Robotics and Automation Letters*, Volume 2, No 3, July 2017,
3. G.S. Piperagkas, I. Konstantaras, K. Skouri, K.E.Parsopoulos, "Solving the stochastic dynamic lot-sizing problem through nature-inspired heuristics", *Computers & Operations Research, Elsevier*, Volume 39, Issue 7, July 2012, Pages 1555-1565,
4. G.S. Piperagkas, A.G. Anastasiadis and N.D. Hatziaargyriou, "Stochastic PSO-based heat and power dispatch under environmental constraints incorporating CHP and wind power units", *Electric Power Systems Research, Elsevier*, vol. 81, 2011, pp. 209-218.

Book Chapters

1. G.S. Piperagkas, R. Angarita, V. Issarny, "Social Participation Network: Linking Things, Services and People to Support Participatory Processes". *Advanced Information Systems Engineering Workshops. CAISE 2020. LNBI pages 109–120, Springer*
2. C. Papadopoulos, I. Mariolis, A. Topalidou-Kyniazopoulou, G.S. Piperagkas, D. Ioannidis, D. Tzouvaras, "An Advanced Human-Robot Interaction Interface for Teaching Collaborative Robots New Assembly Tasks". *Interactive Collaborative Robotics. ICR 2017. Lecture Notes in Computer Science, vol 10459. Springer, Cham*
3. I.S. Kotsireas, K.E. Parsopoulos, G.S. Piperagkas, M.N. Vrahatis "Ant-based approaches for solving autocorrelation problems", *ANTS, pages 220–227, 2012, Springer*

Magazines articles

1. G.S. Piperagkas, D. Ioannidis, D. Tzovaras, "Data Anonymization and Aggregation Approaches for Local Energy Communities", *ACM SIGENERGY Energy Informatics Review*, Volume 5, Issue 1, July 2025.

Conference proceedings

1. M. Haage, G.S. Piperagkas, C. Papadopoulos, I. Mariolis, J. Malec, Y. Bekiroglu, M. Hedelind, D. Tzovaras, "Teaching Assembly by Demonstration using Advanced Human Robot Interaction and a Knowledge Integration Framework", *27th International Conference on Flexible Automation and Intelligent Manufacturing, FAIM 2017, June 2017, Modena, Italy*
2. G. Georgoulas, G.S. Piperagkas, G. Iacobellis, V. Boschian, F. Simeoni, S. Maksimovic, W. Geretto, C.D. Stylios, "Metaheuristic approaches for scheduling the Trieste-Ferneti pickup and delivery service", *13th IFAC Symposium on Large Scale Complex Systems: Theory and Applications, July 2013, pp. 514-519, Shanghai, China*
3. G.S. Piperagkas, G. Georgoulas, K.E. Parsopoulos, C.D. Stylios, A. Likas, "Integrating Particle Swarm Optimization and Reinforcement Learning in noisy problems", *Genetic and Evolutionary Computation Conference (GECCO '12), July 2012, Philadelphia, USA*
4. C. Voglis, G.S. Piperagkas, K.E. Parsopoulos, D.G. Papageorgiou, I.E. Lagaris, "MEMPSODE: Comparing Particle Swarm Optimization and Differential Evolution Within a Hybrid Memetic Global Optimization Framework", *BBOB workshop, Genetic and Evolutionary Computation Conference (GECCO '12), July 2012, Philadelphia, USA*
5. C. Voglis, G.S. Piperagkas, K.E. Parsopoulos, D.G. Papageorgiou, I.E. Lagaris, "MEMPSODE: An Empirical Assessment of Local Search Algorithm Impact on a Memetic Algorithm Using Noiseless Testbed", *BBOB workshop, Genetic and Evolutionary Computation Conference (GECCO '12), July 2012, Philadelphia, USA*
6. G.S. Piperagkas, C. Voglis, V.A. Tatsis, K.E. Parsopoulos, K. Skouri, "Applying PSO and DE on multi-item inventory problem with supplier selection", *The 9th Metaheuristics International Conference, July 2011, Udine, Italy*

Others

1. S. Jimenez et al., "Interoperability Framework in Energy Data Spaces", *International Data Spaces Association, v1.0: October 2023, v2.0: March 2025*
2. G.S. Piperagkas, "Leveraging universal social networking and the IoT for urban-scale participatory systems", *Zenodo, 2023, <https://doi.org/10.5281/zenodo.8100282>*
3. G.S. Piperagkas, "Hybridization of Differential Evolution with Reinforcement Learning and Polynomial Extrapolation in noisy problems", *Zenodo, 21 June 2023, <https://doi.org/10.5281/zenodo.8066579>*

Skills

Languages

Greek: Excellent

English: Excellent, *Certificate of Proficiency in English, University of Cambridge.*

German: Good, *Zertifikat Grundstufe, Goethe-Institut.*

Computer skills

OS: OS X, GNU/Linux, MS Windows, FreeBSD

Computer Languages: fluent: Rust, C, C++, Java, Matlab, PHP, XML, HTML
moderate skills: python, javascript, bash, SQL

Honours and Awards

"Zosima" scholarship for undergraduate studies, distinction in examinations of the Greek Ministry of National Education and Religious Affairs, years 2004-2008.

Memberships

Member of the Technical Chamber of Greece.

ACM Professional member.

IEEE member.