

Panagiotis Tzenos

PERSONAL STATEMENT Research associate of the Hellenic Institute of Transport, with main specialized areas the algorithm design and analysis and software development.

Current research interests include the management and processing methods of big data streams for mobility planning, multimodal planning algorithms design and software development and machine learning techniques for pattern recognition and prediction.

WORK EXPERIENCE

September 2009 – Today **Software Developer - Research Associate**
Centre for Research and Technology Hellas (CERTH) - Hellenic Institute of Transport (HIT).
Algorithm design and analysis, full-stack software development.

April 2008 – February 2009 **Hellenic Army**
Active duty at the «Research – Informatics» Corps, while serving the greek army.
Technical support (administration, maintenance, repair and upgrade of computer systems and networks), training of military staff for improving their end-user computer skills.

July 2007 – January 2008 **Software Developer**
Decisions Hellas Business Consultants.
ERP system development primarily using .NET and Microsoft SQL Server.

October 2005 – June 2006 **Call Center Agent**
Hellenic Telecommunications Organization (OTE S.A.).
Customer support on telecommunication devices misconfiguration or/and technical failures.

EDUCATION AND TRAINING

October 2005 – November 2007 **M.Sc. on «Communication Systems & Technologies»**
Master's Degree Program, Computer Science Department, Aristotle University of Thessaloniki, Greece.
Thesis title: «Performance study of multimedia conferencing systems over a wireless environment».

October 2001 – October 2005 **Bachelor's degree in «Computer Science»**
Computer Science Department, Aristotle University of Thessaloniki, Greece.
Study direction: Networks – Communications – Systems Architecture.
Labor for bachelor's degree: «Performance study of the IEEE 802.11e protocol».

OTHER EXPERIENCE

December 2016 – July 2017 **6 Course specialization at coursera.org (University of California, San Diego)**
Big Data Specialization, Verification URL: <https://coursera.org/verify/specialization/7MJZCNVMNH4M>

PERSONAL SKILLS

Mother tongue(s) Greek

- English
- BULATS - Listening & Reading English Language Test (Cambridge ESOL), score: 92/100 (CEFR Level: C2) (2019)
 - FCE, University of Cambridge (1997)

Computer skills

Methods, languages and development tools:

- ANSI-ISO C/C++.
- Very good knowledge of modeling methods of the software development stages and release cycles, ability to use the Unified Modeling Language (UML) for the description of object-oriented software production stages.
- .NET/.NET Core Framework – Excellent knowledge and “on hands” experience in the Visual Studio development environment, by using C#, VB and ASP.NET programming languages.
- Wide experience in developing N-tier applications on distributed systems using Web Services (SOAP/RESTful), .NET Remoting and Windows Communication Foundation (WCF) technologies.
- Data analysis and processing using R and Python.
- Knowledge of Java, Pascal, Prolog, Flex, Lisp.
- Fundamental principles of script programming with bash Unix shell.

Databases:

- Understanding of E-R methodologies about database structure planning, normalization and fine tuning.
- Structured Query Language (SQL) – Perfect command of the language in order to create/maintain databases and to import/export data in any suitable format.
- Microsoft SQL Server/T-SQL – Creation/administration of databases, functions and stored procedures.
- PostgreSQL - PL/pgSQL SQL procedural language.
- MariaDB, MySQL.
- Hands on experience with NoSQL Databases (MongoDB, ElasticSearch).

Geographic Information Systems (GIS):

- Very good knowledge of spatial objects theory.
- ESRI ArcGIS and QGIS software to perform spatial analysis, create thematic maps & graphics, manage ESRI ArcSDE GIS databases and interconnection with traditional software development technologies.
- Usage of Microsoft SQL Server 2008+ and PostGIS spatial capabilities to create and perform spatial queries over spatial data.

Web:

- PHP, ASP.NET (Web Forms, MVC).
- XHTML, CSS, Bootstrap, XML, JSON, Javascript and frameworks.
- Google APIs, Leaflet.
- DotNetNuke, Joomla and WordPress CMS.

Networking:

- Wide knowledge about the WiFi (IEEE 802.11 b/g and e) technology which makes up the operation mechanism of most wireless local networks, gained while performing his labor for bachelor's degree at the Computer Science Department.
- Perfect command of the TCP/IP protocol architecture and operation principals, as well as of the Ethernet (IEEE 802.3) technology.
- Network Security – Full background on security techniques (Authentication methods, digital signatures, encryption, firewalls).
- Local network administration experience. Initial setup and administration of networks using the Active Directory technology.

Operating Systems:

- Installation, configuration, administration and operation of Microsoft operating systems (DOS, Windows 9x/NT based, Server) as well as of various Linux distributions.

Virtualization Technologies:

- Microsoft Hyper-V, Oracle VirtualBox, Docker containers.

Productivity Tools:

- Microsoft Office, OpenOffice.
- Basic knowledge of using software tools for image (Adobe Photoshop, The Gimp) and video (Adobe Premiere, Adobe AfterEffects) processing.

Publications in Scientific Journals

- Tsaples G., Salanova Grau J.M., Aifadopoulou G., **Tzenos P.** (2021). Investigating the effects of introducing Automated Straddle Carriers in port operations with a System Dynamics model. *Periodica Polytechnica Transportation Engineering*, DOI: <https://doi.org/10.3311/PPtr.15527>
- Boufidis N., Salanova J.M., **Tzenos P.**, Aifadopoulou G. (2020). Estimating Time of Arrival of Trains at Level Crossings for the Provision of Multimodal Cooperative Services. *Transportation Research Procedia*, Vol 47, pp 346-352. DOI: 10.1016/j.trpro.2020.03.108.
- Salanova Grau J. M., Mitsakis E., **Tzenos P.**, Stamos I., Aifadopoulou G. (2018). Multi-source data framework for network traffic state estimation and prediction. *Journal of Advanced Transportation*. vol. 2018, Article ID 9078547, 9 pages, 2018. <https://doi.org/10.1155/2018/9078547>
- Salanova Grau, J.M., Estrada, M., **Tzenos P.**, Aifadopoulou G. (2018). Agent-based simulation framework for the taxi sector modeling. *Procedia – Computer Sciences*, Vol 130, pp 294-301. [DOI:10.1016/j.procs.2018.04.042].
- Kotoula, K.M., Morfoulaki, M., Aifadopoulou, G., **Tzenos, P.** (2017). Calculating the optimal school bus routing and its impact on safety and environment protection, *Journal of the Transportation Research Board*, Vol 2647, pp 142-150 DOI: <https://doi.org/10.3141%2F2647-17>

Book Chapters

- Georgios Tsaples & Josep Maria Salanova Grau & Georgia Aifadopoulou & **Panagiotis Tzenos**, 2021. "A Simulation Model for the Analysis of the Consequences of Extreme Weather Conditions to the Traffic Status of the City of Thessaloniki, Greece," Springer Optimization and Its Applications, Springer. In: Kotsireas I., Nagurney A., Pardalos P., Tsokas A. (eds) *Dynamics of Disasters—Impacts, Risk, Resilience and Solutions*. P. 259-272. Springer Optimization and Its Applications, vol 169. Springer [DOI: 10.1007/978-3-030-64973-9_16]
- Aifadopoulou G., Salanova J. M., **Tzenos P.**, I. Stamos, E. Mitsakis (2018). Big and open data supporting sustainable mobility in smart cities – the case of Thessaloniki. *Data Analytics: Paving the Way to Sustainable Urban Mobility*. Chapter No: 47. [DOI:10.1007/978-3-030-02305-8_47]
- G. Aifadopoulou, Ch. Bratsas, K. Koupidis, A. Chatzopoulou, J. M. Salanova, **P. Tzenos** (2018). Short-Term Prediction of the Traffic Status in Urban Places Using Neural Network Models. *Data Analytics: Paving the Way to Sustainable Urban Mobility*. Chapter No: 22. [DOI:10.1007/978-3-030-02305-8_22]
- Salanova J. M., Maciejewski M., Bischoff J., Estrada M., **Tzenos P.**, Stamos I. (2017). Use of probe data generated by taxis. *Big Data for regional science*. Routledge Advances in Regional Economics, Science and Policy. Taylor & Francis Group. [ISBN 1138282189, 9781138282186]

Conferences

- Maleas Z., Aifadopoulou G., Salanova-Grau J.M., **Tzenos P.**, Nikiforiadis A. (2021). Rebalancing via combinatorial optimization in a real life smart bike-sharing service. 31st European Conference on Operational Research (EURO 2021) Athens (hybrid), Greece on 11-14
- Salanova-Grau J.M., Mallidis I., Aifadopoulou G., Konstantinidou M., **Tzenos P.**, Tolikas T. (2021). Mitigate COVID spreading in industrial and business areas using Carpooling service. 31st European Conference on Operational Research (EURO 2021) Athens (hybrid), Greece on 11-14 July 2021.
- **Tzenos P.**, Konstantinidou M., Tolikas A., Maleas Z., Salanova-Grau J.M. (2021). Evaluation of a ride-sharing service in Thessaloniki: The perspective of both the service provider and the users. 10th International Congress on Transportation Research (ICTR 2021), Rhodes (hybrid), Greece 2-3 September 2021.
- Konstantinidou M., **Tzenos P.**, Maleas Z., Tolikas A., Salanova-Grau J.M. (2021). Implementation and evaluation of shared mobility services in Thessaloniki during the COVID-19 era. 10th International Congress on Transportation Research (ICTR 2021), Rhodes (hybrid), Greece 2-3 September 2021.
- Aifadopoulou G., Salanova-Grau J.M., Magkos E., **Tzenos P.**, Mallidis I., Maleas Z. and Tolikas T. (2021). Implementation of a multilevel Decision Support Toolset to support emerging urban mobility solutions. 10th International Congress on Transportation Research (ICTR 2021), Rhodes (hybrid), Greece 2-3 September 2021.
- Aifadopoulou G., Salanova-Grau J.M., Magkos E., **Tzenos P.**, Konstantinidou M., Nikiforiadis A., Boufidis N. (2021). Impact of COVID-19 pandemic crisis on mobility in the city of Thessaloniki. 10th International Congress on Transportation Research (ICTR 2021), Rhodes (hybrid), Greece 2-3 September 2021.

- Salanova J.M., Boufidis N., Aifadopoulou G., **Tzenos P.**, Tolikas A. (2020). Multimodal Cooperative ITS Safety System at Level-Crossings. The 23rd IEEE International Conference on Intelligent Transportation Systems, Rhodes, Greece, September 20-23, 2020.
- Aifadopoulou G., Tsaples G., Salanova J.M., **Tzenos P.** (2020). Autonomous Port Vehicles Fleet Management: Analyzing the Effect of GNSS Limitations. The 23rd IEEE International Conference on Intelligent Transportation Systems, Rhodes, Greece, September 20-23, 2020.
- Aifadopoulou G., Konstantinidou M., Boufidis, Josep Maria Salanova Grau, Georgios Tsaples and **Panagiotis Tzenos** (2019). Estimation of value-of-time and willingness to pay for ride-sharing transport services in Thessaloniki. 9th International Congress on Transportation Research "Transport 4.0: The smart evolution" Athens, 24 – 25 October 2019.
- Aifadopoulou G., Boufidis N., **Tzenos P.**, Tolikas A., Salanova-Grau J.M., Konstantinidou M. (2019). A cooperative warning system for drivers around level-crossings in Thessaloniki. 9th International Congress on Transportation Research "Transport 4.0: The smart evolution" Athens, 24 – 25 October 2019.
- **Tzenos P.**, Aifadopoulou G., Salanova-Grau J.M., Boufidis N. (2019). Data collection and processing for intelligent urban mobility and cooperative transport systems. 9th International Congress on Transportation Research "Transport 4.0: The smart evolution" Athens, 24 – 25 October 2019.
- Boufidis N., Salanova J. M., **Tzenos P.**, Aifadopoulou G. (2019). Estimating time of arrival of trains at level crossings for the provision of multimodal cooperative services. 22nd EURO Working Group on Transportation Meeting, EWGT 2019, 18 - 20 September 2019, Barcelona, Spain.
- Tsaples G., Salanova J. M., **Tzenos P.**, Aifadopoulou G. (2019). A simulation model for the analysis of the consequences of extreme weather conditions to the traffic status of the city of Thessaloniki, Greece. 4th International conference on Dynamics of Disasters July 1-4, 2019, Kalamata, Greece.
- Boufidis N., Aifadopoulou G., Salanova J.M., **Tzenos P.** (2019). Estimating Train Arrival Time with Supervised Machine Learning Algorithms. 13th ITS European Congress, Brainport, the Netherlands, 3-6 June 2019
- Salanova J.M., Boufidis N., **Tzenos P.**, Aifadopoulou G. (2019), On the density of GPS data for microscopic car emissions models. 23rd International Transport and Air Pollution Conference, 15-17th May 2019, Thessaloniki, Greece.
- Glykeria Myrovali, Theodoros Karakasidis, Avraam Charakopoulos, **Panagiotis Tzenos**, Maria Morfoulaki, Georgia Aifadopoulou (2019). Exploiting the Knowledge of Dynamics, Correlations and Causalities in the Performance of Different Road Paths for Enhancing Urban Transport Management. International Conference on Decision Support System Technology, 27th May 2019
- Salanova J. M., **Tzenos P.** (2018). Traffic prediction in cities with harbor. The EWG-DSS 2018 international conference on decision support system technology & PROMETHEE days 2018. Heraklion, Greece, 22-25 May 2018.
- Toumpalidis I., Karanikolas N, Salanova J. M., **Tzenos P.** (2018). Social media data for supporting transportation planning. The EWG-DSS 2018 international conference on decision support system technology & PROMETHEE days 2018. Heraklion, Greece, 22-25 May 2018.
- Salanova Grau J.M., Moreira-Matias L., Saadallah Amal, **Tzenos P.**, Aifadopoulou G., Chaniotakis E.m Estrada M. (2018) informed versus non-informed taxi drivers: agent-based simulation framework for assessing their performance, Transportation Research Board 96th Annual Meeting, Washington, USA.
- Aifadopoulou G., Salanova J.M., **Tzenos P.**, Theodosiou A., Tsoukos G., Papadopoulos C., Tsitsamis D. (2018). Management of autonomous straddle carrier fleet. Proceedings of 7th Transport Research Arena TRA 2018, April 16-19, 2018, Vienna, Austria
- Salanova J. M., Theodosiou A., Aifadopoulou G., **Tzenos P.**, Tsoukos G. (2018). Autonomous port vehicle fleet management. ITS World congress 2018. Copenhagen. September 17-21.
- Ketikidis K., Salanova J. M., Aifadopoulou G., **Tzenos P.**, (2018). Mapping "Mobility as a Service" components towards economic indicators in Europe ITS World congress 2018 Copenhagen. September 17-21.
- Salanova J.M, Estrada M., **Tzenos P.**, Aifadopoulou G. (2018). Agent-based simulation framework for the taxi sector modeling. The 9th International Conference on Ambient Systems, Networks and Technologies. Porto, Portugal May 8-11.
- Aifadopoulou G., Salanova J. M., Kortsari A., **Tzenos P.**, Sourtzinou N., Dalkalitsis A (2018). Multimodal cooperative safety services: location-based alert system at level crossings. Railways 2018. The Fourth International Conference on Railway Technology: Research, Development and Maintenance. 3-7 September. Sitges, Barcelona, Spain.

- G. Aifadopoulou, Ch. Bratsas , K. Koupidis , A. Chatzopoulou , J. M. Salanova, **P. Tzenos**, The use of neural network models on short-term prediction of the traffic status: The case study of Thessaloniki (2018). Conference on complex systems, Thessaloniki, 23-28 September 2018.
- Salanova J. M., Boufidis N., **Tzenos P.**, Activity and mobility patterns identification for supporting transport planning (2018). Conference o complex systems, UrbanSys satellite. Thessaloniki, 23-28 September 2018.
- Boufidis N., Papadopoulo A., **Tzenos P.**, Salanova J. M., Artificial Intelligence Techniques for Urban Traffic Analysis and Transportation Optimization, a Case Study in Thessaloniki, Greece (2018). Conference o complex systems, UrbanSys satellite. Thessaloniki, 23-28 September 2018.
- Salanova Grau J. M., Stamos I., Mitsakis E., Margaritis D., **Tzenos P.**, Aifadopoulou G. (2017) "Estimation of traffic flow from Bluetooth detections", Transportation Research Board 95th Annual Meeting, 8-12 January, 2017, Washington, USA.
- Hennemann S., Salanova J. M., Huther P., **Tzenos P.** and Aifandopoulou G. (2017). Impact assessment of cooperative services for freight transport. 12th ITS European Congress, Strasbourg, France, 19-22 June 2017.
- Salanova J. M., **Tzenos P.**, Mitsakis E. and Aifandopoulou G. (2017). Big and open data supporting sustainable mobility in smart cities – the case of Thessaloniki. 15th International Conference on Environmental Science and Technology. Rhodes, Greece, 31 August to 2 September 2017.
- Salanova J. M., Stamos I., **Tzenos P.**, Margaritis D., Mitsakis E. and Aifandopoulou G. (2017). Traffic flow estimation from Bluetooth devices detection. 8th International congress on Transportation research in Greece. Transportation by 2030: trends and perspectives. Thessaloniki, 27-29 September 2017, Thessaloniki, Greece.
- Toumpalidis I., Karanikolas N., Salanova J. M., Chaniotakis E., **Tzenos P.**, and Aifandopoulou G. (2017). A spatio-temporal correlation between digital and physical world, case study in Thessaloniki. 8th International congress on Transportation research in Greece. Transportation by 2030: trends and perspectives. Thessaloniki, 27-29 September 2017, Thessaloniki, Greece.
- Salanova J. M., Chaniotakis E., Goutzikas Th., Zacharis S., **Tzenos P.** and Aifandopoulou G. (2017). Methodological framework for the estimation of risks in the transport of dangerous goods. 8th International congress on Transportation research in Greece. Transportation by 2030: trends and perspectives. Thessaloniki, 27-29 September 2017, Thessaloniki, Greece.
- K. Papoutsis, E. Gagatsi, G. Aifantopoulou and **P. Tzenos**. Capitalization of MED projects' outcomes: recommendations for integrating project outcomes into policy frameworks. 7th International Congress on Transportation Research. 5-6 November 2015, Athens, Greece.
- J.M. Salanova Grau, Mitsakis E., G. Aifadopoulou, **Tzenos P.**, Tamiakis J, Stamos I. (2014). Traffic forecasting model for cities with harbour, ITS and Smart Cities 2014, 19-22 November 2014, Patra, Greece.
- E. Mitsakis, J.M. Salanova Grau, G. Ayfandopoulou, **P. Tzenos** (2013), "Assessment and prediction of real-time traffic information for advanced mobile services in Thessaloniki" 6th International Congress on Transportation Research "Energy, Environment and Transport" Thessaloniki, 17 – 18 October 2013.