

**RESUME of
Ioannis G. Tsoulos**

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A. Personal Data

Name :Ioannis
Surname :Tsoulos
Date of birth :8/1/1977
Place of birth :Laganas Ilias
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B. Academic Studies

1994 – 1998 :BSC in Information Technology from the Department of Computer Science at the University of Ioannina, Greece.
1999 – 2001 :MSC in Information Technology from the Department of Computer Science at the University of Ioannina, Greece. The title of MSC was “Parallel neural networks”.
2001 – 2006 :PHD in Information Technoly from the Department of Computer Science at the University of Ioannina, Greece. The title of PHD was “Global Optimization: methods and software”.

C. Teaching Experience

- 1. Semptember 2001 – March 2012:** Research Associate at Department of Informatics and Telecommunications of the Technological Institution of Epirus, Greece, teaching the following courses
 1. Programming in Pascal
 2. Programming in C++
 3. Network programming in Java
 4. E-Commerce (PHP, MYSQL).
- 2. October 2006 – September 2008:** Visiting Lecturer at the Department of Computer Science of the University of Ioannina, Greece, teaching the following courses
 1. Programming in C
 2. Genetic Algorithms
 3. Introduction to Informatics (UNIX, HTML).
- 3. September 2009 – August 2010:** Visiting Lecturer at the Departent of Cultural Environment and New Technology of the University of Ioannina, Greece, teaching the following courses
 1. Object oriented programming (Java)
 2. Introcuction to programming (C++)
- 4. October 2011- March 2012:** Visiting Lecturer at the Department of Informatics and Telecommunications of the University of Western Macedonia, Greece, teaching the following courses
 1. Object oriented programming (Java)
 2. Topics in algorithms.
- 5. March 2014-Today:** Associate professor at department of Informatics, Technological

D. Working Experience

1. **January 1999 – May 1999:** Researcher for the program “Expanding and Upgrading Education” of the University of Patras, Greece.
2. **October 1999 – May 2000:** Researcher for the program “EKSAPSIS” of the University of Crete, Greece.
3. **March – August 2001:** Researcher for the program “Transportation and mobility” of the University of Ioannina, Greece.
4. **November 2001 – October 2002:** Researcher for the program “Parallel neural networks” of the University of Ioannina, Greece.
5. **January – February 2002:** Researcher for the program “CHILDCARE: INTELLIGENT COLLABORATIVE ENVIRONMENT FOR OUT-OF-HOSPITAL CHILDREN HEALTHCARE (IST-2001-33383)” of the University of Ioannina, Greece.
6. **June – December 2003:** Researcher for the program “Expanding Education” of Technological Educational Institute of Epirus, Greece.
7. **May 2005 – August 2006:** Researcher for the program “Reinforcement of Education” of the Technological Educational Institute of Epirus, Greece.
8. **December 2006 – January 2008:** Researcher for the program “New earth” of the Technological Educational Institute of Epirus, GREECE.

E. Papers on Scientific Journals

1. I. G. Tsoulos, I.E. Lagaris and A. Likas, Neural Splines: exploiting Parallelism for Function Approximation Using Modular Neural Networks, *Neural Parallel and Scientific Computations* **13**, pp. 161 - 178, 2005.
2. I. G. Tsoulos, I. E. Lagaris, Solving differential equations with genetic Programming, *Genetic Programming and Evolvable Machines* **7**, pp. 33 -54, 2006.
3. I. G. Tsoulos and I. E. Lagaris, Genetically Controlled Random Search: A global optimization method for continuous multidimensional functions, *Computer Physics Communications* **174**, pp. 152-159, 2006.
4. I. G. Tsoulos and I. E. Lagaris, GenAnneal: Genetically modified Simulated Annealing, *Computer Physics Communications* **174**, pp. 846-851, 2006.
5. I. G. Tsoulos and I. E. Lagaris, MinFinder: Locating all the local minima of a function, *Computer Physics Communications* **174**, pp. 166-179, 2006.
6. I. G. Tsoulos, D. Gavrilis and E. Dermatas, GDF: A tool for function estimation through grammatical evolution, *Computer Physics Communications* **174**, pp. 555-559, 2006.
7. George Georgoulas, Dimitris Gavrilis, Ioannis G. Tsoulos, Chrysostomos Stylios, João Bernardes and Peter P. Groumpos, “Novel approach for fetal heart rate classification introducing grammatical evolution”, *Biomedical Signal Processing and Control* **2**, pp. 69-79, 2007.
8. I. G. Tsoulos, D. Gavrilis, E. Dermatas, GDF v2.0, an enhanced version of GDF, *Computer Physics Communications* **177**, pp. 976-977, 2007.
9. I. E. Lagaris and I. G. Tsoulos, “ Stopping Rules for Box-Constrained Stochastic Global Optimization”, *Applied Mathematics and Computation* **197**, pp. 622-632, 2008.
10. I.G. Tsoulos and I.E.Lagaris, “ GenMin: An enhanced genetic algorithm for global optimization”, *Computer Physics Communications* **178**, pp. 843-851, 2008.
11. I.G. Tsoulos, D. Gavrilis, E. Glavas, “Neural Network Construction and Training using Grammatical Evolution”, *Neurocomputing* **72**, pp. 269-277, 2008.
12. D. Gavrilis, I.G. Tsoulos, E. Dermatas, “Features Selection and Construction using

- Grammatical Evolution”, *Pattern Recognition Letters* **29**, pp. 1358-1365, 2008.
13. G.S. Paschos, I.G. Tsoulos, E.D. Vagenas, S.A. Kotsopoulos, G.K. Karagiannidis, Deterministic Simulation Model for Sojourn Time in Urban Cells with square street geometry, accepted for publication in *International Journal of Vehicular Technology*.
 14. I. G. Tsoulos, I.E. Lagaris, MinFinder v2.0: An improved version of MinFinder, *Computer Physics Communications* **179**, pp. 614-615, 2008.
 15. I. G. Tsoulos, Modifications of real code genetic algorithm for global optimization, *Applied Mathematics and Computation* **203**, pp. 598-607, 2008.
 16. V.A. Tatsis, I.G. Tsoulos, A. Stavrakoudis, Molecular dynamics simulations of the TSSPSAD peptide antigen in free and bound with CAMPATH-1H Fab antibody states: the importance of the β -turn conformation. *International Journal of Peptide Research and Therapeutics* **15**, pp. 1-9, 2009.
 17. I.G. Tsoulos, Solving constrained optimization problems using a novel genetic algorithm, *Applied Mathematics and Computation* **208**, pp. 273-283, 2009.
 18. I.G. Tsoulos, D. Gavrilis, E. Glavas, Solving differential equations with constructed neural networks, *Neurocomputing* **72**, pp. 2385-2391, 2009.
 19. Athanassios Stavrakoudis, Ioannis G. Tsoulos, Zakhar O. Shenkarev, Tatiana V. Ovchinnikova, Molecular dynamics simulation of antimicrobial peptide arenicin-2: β -hairpin stabilization by non-covalent interactions, *Biopolymers: peptide science* **92**, pp. 143-155, 2009.
 20. V.A. Tatsis, I.G. Tsoulos, C.S. Krinas, C. Alexopoulos, A. Stavrakoudis, Insights into the structure of the PmrD protein with molecular dynamics simulations, *International Journal of Biological Macromolecules* **44**, pp. 393-399, 2009.
 21. G. V. Papamokos, I. G. Tsoulos, I.N. Demetropoulos, E. Glavas, Location of Amide I mode of vibration in computed data utilizing constructed neural networks, *Expert Systems with Applications* **36**, pp. 12210-12213, 2009.
 22. I.G. Tsoulos, A. Stavrakoudis, On locating all roots of systems of nonlinear equations inside bounded domain using global optimization methods, *Nonlinear Analysis: Real World Applications* **11** pp. 2465-2471, 2010.
 23. I.S. Kardaras, V.N. Stavrou, I.G. Tsoulos, T.S. Kosmas, Calculations of μ^- wavefunctions in muonic atoms using a genetic algorithm. Accepted for publication in AIP Conference Proceedings.
 24. I.G. Tsoulos, A. Stavrakoudis, Improving the speed and efficiency of PSO methods for global optimization, *Applied Mathematics and Computation* **216**, pp. 2988-3001, 2010.
 25. A. Stavrakoudis, I.G. Tsoulos, K. Uray, F. Hudecz, V. Apostolopoulos, Homology modeling and molecular dynamics simulations of MUC1-9/H-2Kb complex suggest novel binding interactions, *Journal of Molecular Modeling* **17**, pp. 1817-1829, 2011.
 26. I.G. Tsoulos, A. Stavrakoudis Eucb: A C++ program for molecular dynamics trajectory analysis, *Computer Physics Communications* **182**, pp. 834-841, 2011.
 27. A. Stavrakoudis, I.G. Tsoulos, Configurational entropy reallocation and complex loop dynamics of the mosquito-stage Pvs25 protein complexed with the Fab fragment of the malaria transmission blocking antibody 2A8. 5 protein complexed with Fab fragment of malari J. Chem. Theory. Comput. **7**, pp 515-524, 2011.
 28. O. Smart, I.G. Tsoulos, D. Gavrilis, G. Georgoulas, Grammatical Evolution for Features of Epileptic Slow Ripples, *Expert Systems with Applications* **38**, pp. 9991-9999, 2011.
 29. I S Kardaras, V N Stavrou, I G Tsoulos and T S Kosmas, Exact wave functions of bound μ^- for calculating ordinary muon capture rates, *Journal of Physics: Conference Series Volume 410 conference 1*.
 30. Fardin Ahmadizar, Khabat Soltanian, Fardin AkhlaghianTab, Ioannis Tsoulos, Artificial neural network development by means of a novel combination of grammatical evolution and genetic algorithm. Accepted for publication in *Engineering Applications of Artificial Intelligence*.

F. Papers on conferences

1. V. V. Dimakopoulos, A. Kinalis, E. Pitoura, I. Tsoulos, On Deploying and Executing Data – Intensive Code on Smart Autonomous Storage (SmAS) Disks. ADBIS-DASFAA, pp. 323-330, 2000.
2. I.G. Tsoulos, I.E. Lagaris, A. Likas. Piecewise Neural Networks for Function Approximation, Cast in a Form Suitable for Parallel Computation, SETN 2002, pp. 314-324, 2002.
3. D. Gavrilis, I.G. Tsoulos, E. Dermatas. Feature Selection for Robust Detection of Distributed Denial-of-Service Attacks Using Genetic Algorithms. SETN 2004, 276-281.
4. I. G. Tsoulos, I. E. Lagaris, A. Likas. Piecewise continuous approximation of two – dimensional functions using neural networks. Hellenic Conference on Artificial Intelligence 2004 , Springer Verlag.
5. I.G. Tsoulos, D. Gavrilis, E. Glavas, Neural Network Construction using Grammatical Evolution. 5th IEEE International Symposium on Signal Processing and Information Technology. 18-21 December 2005, ISBN: 0-7803-9313-9 , pp. 827-831 .
6. D. Gavrilis, I. Tsoulos, E. Dermatas, Stochastic Classification of Scientific Abstracts. Accepted in Specom 2005.
7. D. Gavrilis, I. Tsoulos, E. Dermatas, Evolutionary Grammar Induction for Protein Relation Extraction. Accepted in Specom 2005.
8. D. Gavrilis, G. Georgoulas, I. G. Tsoulos, Classification of Fetal Heart Rate using Grammatical Evolution. IEEE 2005 Workshop on Signal Processing Systems. 2-4 Nov. 2005, ISBN: 0-7803-9333-3 , pp. 425-429.
9. Dimitris Gavrilis, Ioannis G. Tsoulos, Evangelos Dermatas: Neural Recognition and Genetic Features Selection for Robust Detection of E-Mail Spam. SETN 2006: 498-501
10. I. Tsoulos, G. Georgoulas, D. Gavrilis, C. Stylios, J. Bernades, P. Groumpos, Introducing Grammatical Evolution for FHR Analysis and classification. Accepted for publication in IEEE-IS'06.
11. A. Stavrakoudis, I.G. Tsoulos, F. Hudecz, K. Uray, Homology modeling and molecular dynamics simulations of the SAPDTRPAP peptide bound in the H-2Kb HLA class I molecule, 10th medicinal chemistry conference, Patras, March 2009.
12. I.G. Tsoulos, P. Vasant, Product Mix Selection Using an Evolutionary Technique, POWER CONTROL AND OPTIMIZATION: Proceedings of the Second Global Conference on Power Control and Optimization **1159**, pp. 240-247, 2009.
13. I.S. Kardaras, V.N. Stavrou, I.G. Tsoulos, T.S. Kosmas, Calculations of μ – wavefunctions in muonic atoms using a genetic algorithm, In proceedings of ICCMSE 2009, 29 September – 4 October 2009, Rhodes, Greece.
14. I.S. Kardaras , V.N. Stavrou , I.G. Tsoulos , T.S. Kosmas, Nuclear muon capture rates by using relativistic muon wavefunctions, 18th Symposium of the Hellenic Nuclear Physics Society, Institute of Nuclear Physics - NSCR "Demokritos", 29-30 May 2009
15. I.S. Kardaras , V.N. Stavrou, I.G. Tsoulos, T.S. Kosmas, Detailed calculations for muon capture rates within the quasi-particle RPA, 19th Symposium of the Hellenic Nuclear Physics Society, Institute of Nuclear Physics - NSCR "Demokritos"

G. Reviewer

Reviewer for the following journals and conferences

1. IEEE Transactions on Evolutionary Computation
2. Journal of Computational and Applied Mathematics
3. Information Sciences
4. Applied mathematics and Computation
5. PCO2009.
6. Computers & Mathematics with Applications
7. Mathematical and Computational Applications
8. Journal of Franklin Institute.
9. At the conference ICLICC 2011
10. The International Journal for Computers and Their Applications
11. Mathematical and Computer Modeling
12. Journal of Applied Mathematics and Computing
13. Numerical Algorithms
14. At the conference ICMMSC 2012