

CURRICULUM VITAE

Vassilis Virvilis

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- Name: Vassilis Virvilis
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1 Academic Qualifications

- Graduate of the Department of Physics, University of Crete (1994)
- D. Phil. Degree in Computational Intelligence, Department of Computer Science, University of Athens (2001)

2 Academic awards, scholarships and activities

- In 1994, I was awarded with a scholarship from NCSR DEMOKRITOS in order to conduct my Ph.D
- In 1994 I graduated from the Department of Physics of the University of Crete with a degree of 7.06. During that period:
 - I was awarded with a scholarship from University of Crete for two successive years for excellence.
 - I was awarded with a degree of specialty in Computational Physics.
 - I finalized my graduate thesis on the subject of “Signal acquisition and real time processing”.
 - In 1994, I participated in the summer school organized by the University of Crete with the title “Advanced Physics”.

3 Professional Experience

- From the November of 2001 I am employed as chief programmer in the department realistic simulations.
- In June of 2000 I was awarded with a prize of 5000\$ from Software Carpentry in a global wide contest (*Software Carpentry* <http://software-carpentry.codesourcery.com/>). My proposal was about software configuration.
- In 1996 I teach introduction lessons on computers in I.E.K. Ilioupolis

- In 1997 I participated in a highly specialized school on the subject of real time programming and embedded systems, Trieste, Italy.
- During my Ph.D. I developed *billnet* <http://www.iit.demokritos.gr/~vasvir/billnet> , the fast and free (GPL) neural network simulator

4 Research Activities

4.1 Theses

1. V. Virvilis. *Finite Training in Single Layer Perceptrons and Feature Extraction*. PhD thesis, University of Athens Department of Informatics, 2001. In Greek.

4.2 List of papers

1. S. J. Perantonis and V. Virvilis. Efficient perceptron learning using constrained steepest descent. *Neural Networks*, 13(3):351-364, 2000.
2. S. J. Perantonis, N. Ampazis, and V. Virvilis. A learning framework for neural networks using constrained optimization methods. In *Annals of Operations Research*, volume 99, pages 385-401, 2000.
3. S. J. Perantonis and V. Virvilis. Input feature extraction for multilayer perceptrons using supervised principal component analysis. *Neural Processing Letters*, 10(3):243-252, 1999.
4. J. A. Kocher, C. Haldoupis, K. Schlegel, and V. Virvilis. Simultaneous observations of e region coherent radar echoes at 2-m and 6-m ratio wavelengths at mid-latitude. *Journal of Geophysical research*, 102:17255-17265, 1997.

4.3 Conference Proceedings

1. N. Vassilas, S. J. Perantonis, V. Virvilis, A. Rabavilas, and G. N. Christodoulou. Multi-modular ERP classification using neural networks based feature selection. In *Proceedings of the IASTED international conference Artificial Intelligence and Applications*, pages 26-29, Marbella, Spain, 2001.
2. S. J. Perantonis, N. Ampazis, V. Virvilis, and S. Petridis. Open issues in feed-forward neural network training. In *LFTNC2001*, Siena, Italy, 2001.
3. A. Agogino, J. Ghosh, S. J. Perantonis, V. Virvilis, S. Petridis, and Lisboa P. J. G. The role of multiple linear-projection based visualization techniques in RBF based classification of high dimensional data. In *Proceedings of IEEE-INNS-ENNS IJCNN2000*, volume 3, Como, Italy, 2000.
4. S. J. Perantonis, S. Petridis, and V. Virvilis. Supervised principal component analysis using a smooth classifier paradigm. In *Proceedings of International Conference on Pattern Recognition*, number 1572 in 0, Barcelona, Spain, 2000.
5. S. J. Perantonis and V. Virvilis. Dimensionality reduction using a novel neural network based feature extraction method. Washington, DC, 1999. Presented at International Joint Conference on Neural Networks. Best presentation award.
6. S. J. Perantonis and V. Virvilis. Efficient linear discriminant analysis using a fast quadratic programming algorithm. In *International Workshop on Advanced Black-Box Techniques for Nonlinear Modeling*, pages 164-169, Leuven, Belgium, 1998.

7. S. J. Perantonis, V. Virvilis, and N. Ampazis. Recent advances in neural network training using constrained optimization. In *Proceedings of 4th International Conference on Applied Mathematical Programming and Modeling APMOD98*, Limassol, Cyprus, 1998.
8. S. J. Perantonis, V. Virvilis, Ch. Papageorgiou, and A. Rabavilas. Neural network based parameter selection for ERP analysis. In *Proceedings of X World Congress of Psychiatry*, volume I, page 178, 1996.

4.4 Citations

- S. J. Perantonis and V. Virvilis. Feature selection using supervised principal components analysis. *Neural Processing Letters*, 10(3):243-252, 1999.
 1. JM. Torres-Moreno, JC. Aguilar, and Gordon MB. The minimum number of errors in the n-parity and its solution with an incremental neural network. *NEURAL PROCESS LETT*, 16 (3):201-210, 2002.
 2. N. Ampazis and S. J. Perantonis. Two highly efficient second-order algorithms for training feed-forward networks. *IEEE Transactions on Neural Networks*, 13 (5):1064-1074, 2002.
 3. AP. Engelbrecht. A new pruning heuristic based on variance analysis of sensitivity information. *IEEE Transactions on Neural Networks*, 12 (6):1386-1399, 2001.
- J. A. Kocher, C. Haldoupis, K. Schlegel, and V. Virvilis. Simultaneous observations of e region coherent radar echoes at 2-m and 6-m ratio wavelengths at mid-latitude. *Journal of Geophysical research*, 102:17255-17265, 1997.
 1. RA. Makarevitch, AV. Koustov, Sofko GJ., and et al. Multi-frequency measurements of hf Doppler velocity in the auroral e region. *J GEOPHYS RES-SPACE*, 107 (A8):art. no. 1212, 2002.
 2. YH. Chu and CY. Wang. Three-dimensional spatial structures of mid-latitude type 1 es irregularities. *J GEOPHYS RES-SPACE*, 107 (A8):art. no. 1182, 2002.
 3. JA. Koehler, C. Haldoupis, and E. Schlegel. Coherent backscatter cross-section ratio measurements in the midlatitude e region ionosphere. *J GEOPHYS RES-SPACE*, 104 (A3):4351-4359, 1999.
 4. YH. Chu and CY. Wang. First observations of type-1 sporadic e irregularities in the equatorial anomaly region using the chung-li vhf radar. *GEOPHYS RES LETT*, 25 (20):3779-3782, 1998.

4.5 Research Projects

- BRITE-EURAM – BE-1117 (1996-1998), "GeoNickel" Integrated Technologies for Mineral Exploration: Pilot Project for Nickel Ore Deposits
- "PENED" (1996-1998), «Development of Neural Network Algorithms for the Study and Forecasting of Plasma Parameters in Nuclea Fusion Reactors"
- PENED, "Research of ionospheric phenomena"
- "Application of computational intelligence for the recognition of addicted people"
- "Advanced techniques of Optical Character Recognition"
- "Modeling of data and knowledge extraction with advance techniques of machine learning"
- PENED, 97BE323 (1998-2000), "Programmable Intelligent Mobile camera for Pattern Recognition"

5 Computer Experience

- BASIC
- PASCAL
- ANSI C.
- C++ with or without QT and templates (linux, win32, solaris)
- Assembly for both 80x86 and TMS320CXX
- Programmable unix tools such as, sed, awk, m4, cron, etc.
- High level mathematic languages (MATLAB, octave).
- Tcl/Tk, for fast GUI prototyping.
- Python an object oriented scripting language.
- Real time applications on embedded systems.

while I am experience in several platforms such as VMS, VM/SP, DOS, Win3.1/Win95/98/NT, Linux, RT-Linux, FreeBSD, SunOS, Solaris, éáé AIX.