



Curriculum Vitae

PERSONAL INFORMATION

Francesco Maiorana



- [LinkedIn](#)
- [ResearchGate](#)
- [ORCID](#)
- [Publons](#)
- [Scopus](#)

Sex | Date of birth

JOB APPLIED FOR  
POSITION  
PREFERRED JOB  
STUDIES APPLIED FOR

Assistant Professor / Lecturer

WORK EXPERIENCE

- 1/10/2016 - Today Computer Science / ICT non tenure track Professor at the Department of Education University of Catania
- 01/09/1994 – Today High School Computer Science Teacher  
Holding permanent position after an Italian public concur process
- 01/2017 – today Scientix ambassador
- 2001 - 2008 Lecturer in undergraduate Computer Science and Information Technologies courses for students majoring in different disciplines such as Computer Science, Computer Engineering, Economics, Geology, Education Science
- 2002 Tutor in teacher training courses organized by the Italian National Institute for Documentation, Innovation and Educational Resources (INDIRE) (PuntoEdu – Indire)
- 01/01/2015 – 31/12/2015 Co-leader of the V<sup>th</sup> Working Group at the XX ACM conference Innovation Technology in Computer Science Education (ITICSE 2015)
- 01/01/2014 – 31/12/2015 Member of the project group for the University of Catania – Department of Electrical, Electronics and Computer Engineering University of Catania for several projects at the European (H2020)<sup>1</sup>, International<sup>2</sup>, National<sup>3</sup> and Regional<sup>4</sup> level
- 01/11/2014 – 01/07/2016 Principal investigator in the CS4HS@CT project - Google Education Grant
- 01/10/2015 – 31/12/2015 Expert inside the project “K-METROPOLIS” – POR FESR Sicilia 2007/2013 University of Catania

<sup>1</sup> <http://kqbl.github.io/gotostem/>

<sup>2</sup> <https://www.cs4hs.com/>

<sup>3</sup> <http://hubmiur.pubblica.istruzione.it/web/ricerca/diffusione>

<sup>4</sup> [www.euroinfoscilia.it/](http://www.euroinfoscilia.it/)



## Curriculum Vitae

Public and private database integration to develop data mining techniques from SQL, XML and RDF data

- 16/2/2015 – 30/09/2015 Expert inside the project "AGRO-TRA" - POR FESR Sicilia 2007/2013  
University of Catania  
Design of the Data Mining system
- 1/12/2012 al 31/8/2013 Expert inside the project "K-METROPOLIS" – POR FESR Sicilia 2007/2013  
University of Catania  
Public and private database integration to develop data mining techniques from SQL, XML and RDF data
- 1/11/2011 al 31/3/2012 Expert inside the European project Multi-type Content Repurposing and Sharing in Medical Education (Meducator) University of Catania  
Data analysis, evaluation and result dissemination
- 1/11/2011 al 31/3/2012 Expert inside the European project Interactive Tracing and Graphical Annotation in Pen-based E-Learning (ITRACE) University of Catania  
E-learning platform design, field study manager, data analysis, evaluation
- 2004 – Today Research at the University of Catania  
More than 60 articles published in peer-reviewed international journals and conferences

### EXPERT DATABASE

---

- 04/2015 – Today Inclusion in the TAIEX Expert Database  
07/2015 Inclusion in the Italian Ministry of Research and Education expert database for the Digital School after an Italian public concur process

### EDUCATION AND TRAINING

---

- 09/1991 – 05/1993 Master in Computer Science  
  
New York University Department of Computer Science, Courant Institute  
G.P.A. 3,8
- 09/1984 – 01/1991 Master in Computer Engineering  
  
University of Catania, Department of Electrical, Electronic and Computer Engineering  
G.P.A: 29,3/30

PERSONAL SKILLS

Mother tongue(s) Italian

Other language(s)	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	Good	Good	Good	Good	Good
Test of English as a Foreign Language: Level C1 (1990) for the admission to American University					
Spanish	Minimal	Sufficient	Minimal	Minimal	Minimal
Thanks to language affinities					

Communication skills ▪ Good communication skills gained through my experience as workshop leader, session chair, conference presentations

Organisational / managerial skills ▪ Leadership, project management, master thesis supervision

## Technical skills

▪ **Design methodologies:**

- E/R
- EER
- UML
- Structured Systems Analysis and Design Methodology (SSADM)
- Workflow design methodology di Sharp & McDermott
- Ontology design

▪ **Data mining**

- Matlab
- Sql Server
- Grid computing

▪ **Database e Data Warehouse**

- Sql Server
- Access
- MYSQL
- Oracle

▪ **Workflow management**

- Share Point Portal Server

▪ **Project management**

- Microsoft Project
- Libre Project

▪ **Query languages:**

- SQL
- SPARQL

▪ **Statistical analysis:**

- Matlab
- SPSS

▪ **Programming languages:**

- App Inventor
- Snap!
- Scratch
- NetsBlox
- GP
- Python
- PHP
- Javascript frameworks
- jQuery Mobile
- HTML5/HTML
- Java
- C#
- Visual Basic
- C++
- C
- Pascal
- ADA
- Object ADA
- Object Pascal
- Delphi
- Lisp
- Scheme
- Prolog
- SetI, SetI II
- Lingo
- Perl
- Assembler

## ADDITIONAL INFORMATION

- Membership
- ACM – SIGCSE – SIGITE, SIGACCESS, SIGCAS
  - AICA
  - BERA
  - CAS
  - CSTA
  - IEEE – IEEE Education Society – EMBS
  - EARLI

## Publications

## Journal Publications

- Faro, A., Giordano, D., & Maiorana, F. (2015). Mining literatures to discover novel multiple biological associations in a disease context. *International Journal of Data Mining and Bioinformatics*, 12(2), 224–256.
- Cutrera, A., Barbato, E., Maiorana, F., Giordano, D., & Leonardi, R. (2015). Reproducibility and speed of landmarking process in cephalometric analysis using two input devices: mouse-driven cursor versus pen. *Annali Di Stomatologia*, 6(2), 47–52.
- Giordano, D., Maiorana, F., & Leonardi, R. (2012). Effects of monitor size on accuracy and time needed to detect cephalometric radiographs landmarks. *Displays*, 33(4), 206–213.
- Sicurezza, E., Greco, M., Giordano, D., Maiorana, F., & Leonardi, R. (2012). Accuracy of landmark identification on postero-anterior cephalograms. *Progress in Orthodontics*, 13(2), 132–140.
- Faro, A., Giordano, D., & Maiorana, F. (2011). Mining massive datasets by an unsupervised parallel clustering on a GRID: Novel algorithms and case study. *Future Generation Computer Systems*, 27(6), 711–724.
- Leonardi, R. M., Giordano, D., Maiorana, F., & Greco, M. (2010). Accuracy of cephalometric landmarks on monitor-displayed radiographs with and without image emboss enhancement. *The European Journal of Orthodontics*, 32(3), 242–247.
- Faro, A., Giordano, D., Maiorana, F., & Spampinato, C. (2009). Discovering genes-diseases associations from specialized literature using the grid. *Information Technology in Biomedicine, IEEE Transactions on*, 13(4), 554–560.
- Leonardi, R., Giordano, D., & Maiorana, F. (2009). An evaluation of cellular neural networks for the automatic identification of cephalometric landmarks on digital images. *BioMed Research International*, 2009.
- Leonardi, R., Giordano, D., Maiorana, F., & Spampinato, C. (2008). Automatic cephalometric analysis: a systematic review. *The Angle Orthodontist*, 78(1), 145–151.
- Leonardi, R., Maiorana, F., & Giordano, D. (2008). Synchronizing files or images among several computers or removable devices. A utility to avoid frequent back-ups. *American Journal of Orthodontics and Dentofacial Orthopedics*, 133(6), 920–921.
- Maiorana, F. (2008c). Time and space complexity improvements for a grid implementation of a Kohonen-like classification algorithms on sparse data-sets. *Int J Math Comput Simul*, 2(4), 328–337.
- Faro, A., Giordano, D., & Maiorana, F. (2005b). Discovering complex regularities from tree to semi-lattice classifications. *International Journal of Computational Intelligence*, 2(1), 34–39.



- Maiorana, f., Richards, G., Lucarelli C., Berry, M., Ericson, B. Interdisciplinary Computer Science pre-service Teacher Preparation. Panel at the 24th Annual Conference on Innovation and Technology in Computer Science Education, Aberdeen, UK, July 2019, in press
- Falkner, K., Sentance, S., Vivian, R., Barksdale, S., Busuttill, L., Cole, E., Liebe, C., Maiorana, F., McGill, M., Quille, K. An International Benchmark Study of K-12 Computer Science Education in Schools. Working Group, Extended Abstract 24th Annual Conference on Innovation and Technology in Computer Science Education, Aberdeen, UK, July 2019, in press
- Taylor, C., Spacco, J., Bunde, D. P., Butler, Z., Bort, H., Hovey, C. L., Maiorana, F. & Zeume, T. (2018, July). Propagating the adoption of CS educational innovations. In *Proceedings Companion of the 23rd Annual ACM Conference on Innovation and Technology in Computer Science Education* (pp. 217-235). ACM.
- Maiorana F., Berry, M., Nelson, M., Lucarelli, C., Phillipps, M., Mishra, S., & Benassi, A. (2017, June). International Perspectives on CS Teacher Formation and Professional Development. In *Proceedings of the 2017 ACM Conference on Innovation and Technology in Computer Science Education* (pp. 236-237). ACM.
- Giordano, D., Maiorana, F., Csizmadia, A. P., Marsden, S., Riedesel, C., Mishra, S., & Vinikienė, L. (2015). New Horizons in the Assessment of Computer Science at School and Beyond: Leveraging on the VIVA Platform. In *Proceedings of the 2015 ITICSE on Working Group Reports (ITICSE-WGR '15)*. ACM, New York, NY, USA, 117-147.
- Maiorana, F., Giordano, D., & Morelli, R. (2015). Quizly: A live coding assessment platform for App Inventor. In *Blocks and Beyond Workshop (Blocks and Beyond)*, 2015 IEEE (pp. 25-30). IEEE.
- Giordano, D., & Maiorana, F. (2015). Teaching Algorithms: Visual Language vs Flowchart vs Textual Language. *Global Engineering Education Conference (EDUCON)*, pp. 499–504.
- Giordano, D., & Maiorana, F. (2015). A mobile web game approach for improving dysgraphia. In *Proceedings of the International Conference on Computer Supported Education – CSEDU 2015, Lisbon, Portugal*, pp. 328 – 333.
- Giordano, D., & Maiorana, F. (2015). Learning About the Semantic Web in an Information Systems Oriented Curriculum: A Case Study. In *Computer Supported Education*, pp. 242–257. Springer.
- Maiorana, F. (2015). Extending the Database Curriculum: From Design Principles to Web and Mobile Programming. In *Computer Supported Education*, pp. 258–271, Springer.
- Giordano, D., & Maiorana, F. (2014). Addressing dysgraphia with a mobile, web-based software with interactive feedback. In *Biomedical and Health Informatics (BHI), 2014 IEEE-EMBS International Conference on*, pp. 264–268.
- Giordano, D., & Maiorana, F. (2014). Use of cutting edge educational tools for an initial programming course. In *Global Engineering Education Conference (EDUCON)*, pp. 556–563.
- Giordano, D., & Maiorana, F. (2014). Teaching “design first” interleaved with object-oriented programming in a software engineering course. In *Global Engineering Education Conference (EDUCON), 2014 IEEE*, pp. 1085–1088.
- Giordano, D., & Maiorana, F. (2014). Getting it Fast: an Information Systems Oriented Semantic Web Curriculum. In *Proceedings of the International Conference on Computer Supported Education – CSEDU 2014*, pp. 42 – 48.
- Maiorana, F. (2014). Teaching Web Programming - An Approach Rooted in Database Principles. In *Proceedings of the International Conference on Computer Supported Education – CSEDU 2014*, pp. 49 – 56. Barcelona, Spain.

## Conferences

- Maiorana, F. (2014). Neuromorphology: A Case Study Based on Data Mining and Statistical Techniques in an Educational Setting. In *Frontier and Future Development of Information Technology in Medicine and Education*, pp. 3095–3101. Springer Netherlands.
- Giordano, D., & Maiorana, F. (2013). Business Process Modelling and Implementation - A 3-Year Teaching Experience. In *Proceedings of the 5th International Conference on Computer Supported Education (CSEDU 2013)*, pp. 429 – 436. Aachen, Germany.
- Giordano, D., & Maiorana, F. (2013). Object Oriented Design through game development in XNA. In *Interdisciplinary Engineering Design Education Conference (IEDEC), 2013*, pp. 51–55.
- Giordano, D., & Maiorana, F. (2013). An interdisciplinary project in sustainable development based on modern visual programming environments and web 2.0 technologies. In *Interdisciplinary Engineering Design Education Conference (IEDEC), 2013 3<sup>rd</sup>*, pp. 163–167.
- Giordano, D., & Maiorana, F. (2013). Teaching database: a pedagogical and curriculum perspective. In *Proceedings of the International Conference on Information and Communication Technology for Education,(ICTE)*, pp. 913–926.
- Maiorana, F., & Giordano, D. (2013). A Constructivist Approach to Teaching Index Selection Strategies and Database Design. In *Proceedings of the 2013 International Conference on Information and Communication Technology for Education (ICTE)*, pp. 927–942.
- Maiorana, F. (2013). An e-learning platform augmented by learning resource annotation with ontology mapping for exploratory search improvement. In *Proceedings of the 2013 International Conference on Information Engineering*, pp. 647–656.
- Maiorana, F. (2013). A medical image retrieval system based on semantic annotations. In *Proceedings of the tenth IASTED International Conference on Biomedical Engineering*, pp. 394–400.
- Maiorana, F. (2013). A medical content based image retrieval system with eye tracking relevance feedback. In *Computer-Based Medical Systems (CBMS), 2013 IEEE 26th International Symposium on*, pp. 297–302.



## Conferences

- Maiorana, F. (2012). A Teaching Experience on a Data Mining Module. In *Computer Science and Information Systems (FedCSIS), 2012 Federated Conference on*, pp. 871–874.
- Maiorana, F., & Mongioj, A. (2012). A data mining approach for bill of materials for motor revision. In *Computer Science and Information Systems (FedCSIS), 2012 Federated Conference on*, pp. 1091–1096.
- Maiorana, F., Mongioj, A., & Vaccalluzzo, M. (2012). A data mining E-learning tool: description and case study. *Proceedings of the World Congress on Engineering*, 1, pp. 4–6.
- Maiorana, F. (2012). A semantically enriched medical literature mining framework. In *Computer-Based Medical Systems (CBMS), 2012 25th International Symposium on*, pp. 1–4.
- Maiorana, F., Leonardi, R., & Giordano, D. (2012). Eye-tracker data analysis in cephalometric landmarking. In *Computer & Information Science (ICCIS), 2012 International Conference on*, Vol. 2, pp. 1025–1029.
- Maiorana, F., & Fazio, G. (2012). Knowledge Discovery from Text on a Cloud Architecture and its Application to Bioinformatics. In *Proceedings of the 9th IASTED International Conference on Biomedical Engineering, BioMed 2012*, Vol. 9, pp. 557–564.
- Maiorana, F., & Pino, C. (2012). Design, implementation and evaluation of two medical content based image retrieval systems. In *Biomedical Engineering/765: Telehealth/766: Assistive Technologies*, pp. 260–267.
- Kavasidis, I., Pino, C., Spampinato, C., Maiorana, F., & Lanza, G. (2012). Performance Evaluation of Classifiers in Distinguishing Mental Tasks from EEG Signals. In *Biomedical Engineering/765: Telehealth/766: Assistive Technologies*, pp. 171–177.
- Maiorana, F., & Leonardi, R. (2012). Educational and pedagogical design of a software tool for learning postero-anterior cephalometric landmarking. In *Application of Information and Communication Technologies (AICT), 2012 6th International Conference on*, pp. 1–5.
- Maiorana, F., & Leonardi, R. (2012). A Cephalometric educational tool with expert feedback. In *Information Technology in Medicine and Education (ITME), 2012 International Symposium on*, Vol. 1, pp. 16–20.

- Conferences
- Giordano, D., Faro, A., Maiorana, F., Pino, C., & Spampinato, C. (2009). Feeding back learning resources repurposing patterns into the "information loop": opportunities and challenges. In *Information Technology and Applications in Biomedicine, 2009. ITAB 2009. 9th International Conference on*, pp. 1–6.
- Giordano, D., Maiorana, F., & Chiacchio, F. (2009). Chiacchio F. (2009) Coding Softly a SME-Targeted Information System: Towards the Lean ERP Age. In *11th International Conference on The Modern Information Technology in the Innovation Processes of the Industrial Enterprises*, pp. 123–130.
- Giordano, D., Maiorana, F., & Pino, C. (2009). Graphical annotation capabilities in an E-Portfolio system. In *IADAT-e2009 International Conference on Education, 24th - 26th June 2009, University of Deusto Bilbao. SPAIN*.
- Faro, A., Giordano, D., & Maiorana, F. (2009). Navigating in neurobiological hyperspaces in search of relevant associations. *Proc. Neuroinformatics Conference, Computational Neuroscience Track, Pilzen, Germany*.
- Faro, A., Giordano, D., & Maiorana, F. (2008). Input Noise Robustness and Sensitivity Analysis to Improve Large Datasets Clustering by Using the GRID. *Discovery Science*, pp. 234–245.
- Maiorana, F. (2008). Feature Selection with Kohonen Self Organizing Classification Algorithm. *International Journal of Computer, Electrical, Automation, Control and Information Engineering*, 2(9), pp. 2882–2887.
- Maiorana, F. (2008). Performance improvements of a Kohonen self organizing classification algorithm on sparse data sets. In *Proceedings of the 10th WSEAS international conference on Mathematical methods, computational techniques and intelligent systems*, pp. 347–352.
- Giordano, D., Maiorana, F., & Vaccaluzzo, L. M. (2007). Integrating Digital Ink and Paper in a Learning Content Management System for Rapid Learner Assessment. In *Pen-Based Learning Technologies, 2007. PLT 2007. First International Workshop on*, pp. 1–6.
- Giordano, D., & Maiorana, F. (2007). A grid implementation of a cellular neural network simulator. In *Enabling Technologies: Infrastructure for Collaborative Enterprises, 2007. WETICE 2007. 16th IEEE International Workshops on*, pp. 241–246.
- Giordano, D., Leonardi, R., Maiorana, F., Scarciofalo, G., & Spampinato, C. (2007). Epiphysis and metaphysis extraction and classification by adaptive thresholding and DoG filtering for automated skeletal bone age analysis. In *Engineering in Medicine and Biology Society, 2007. EMBS 2007. 29th Annual International Conference of the IEEE*, pp. 6551–6556.
- Giordano, D., Leonardi, R., Maiorana, F., & Spampinato, C. (2006). Cellular neural networks and dynamic enhancement for cephalometric landmarks detection. *Artificial Intelligence and Soft Computing--ICAISC 2006*, pp. 768–777.
- Giordano, D., Leonardi, R., Maiorana, F., Cristaldi, G., & Distefano, M. L. (2005). Automatic landmarking of cephalograms by cellular neural networks. *Artificial Intelligence in Medicine*, pp. 333–342.

Faro, A., Giordano, D., & Maiorana, F. (2005). Discovering complex regularities by adaptive Self Organizing classification. *Enformatika I*, pp. 27–30.

Giordano, D., & Maiorana, F. (2004). A visual tool for mining macroeconomics data. *Data Mining V: Data Mining, Text Mining and Their Business Applications*, pp. 241–251.

## Technical report

Giordano, D., Faro, A., Maiorana, F., & Pino, C. (2008). Pen-based Annotations in Learning Environments and Reference Model. I-Trace Final Report for University of Catania. Grant N. 223434-CP-1-2005-IT-MINERVA-M

Leonardi, R., Giordano, D., Maiorana, F., Pino, C., Hanninen, S. V., Karaharju-Suvanto, T., ... others. (2007). Learning Cephalometric Tracing and Teleradiographic Anatomy with Web-trace and the Tablet PC. I-Trace Final Report for University of Catania. Grant N. 223434-CP-1-2005-IT-MINERVA-M.