

# NICOLA CAPUANO

## CURRICULUM VITAE ET STUDIORUM

### Personal Information

- Name: Nicola Capuano
- Place and date of birth: Salerno (Italy), 25 October 1974
- Nationality: Italian
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### Education and Qualifications

- **Ph.D. in Computer Science and Computer Engineering** achieved in 2018 from the University of Salerno with a dissertation on “Fuzzy Models for Group Decision Making and Applications to e-Learning and Recommender Systems”.
- **National Scientific Qualification** as Academic Associate Professor in Computer Science obtained in 2015 from the Italian Ministry of Education.
- **FCE Certificate in English** obtained in 2014 from the Cambridge English Language Assessment.
- **Project Management Professional Certification (PMP)** obtained in 2005 by Project Management Institute.
- **Teaching Qualification**, enabling to teach Computer Science in Secondary Schools, obtained in 2001 as a result of a public competition.
- **Master Degree with Honours in Computer Science** achieved in 1998 from the University of Salerno, with a thesis entitled “Classification of Stars and Galaxies using Neural Networks”.

### Research Highlights

- **121 publications** cited 1,082 times in **Google Scholar** with h-index 16 and i10-index 30; **67 publications** cited 441 times in **Scopus** with h-index 10; **46 publications** cited 151 times in **ISI-WoS** with h-index 6.
- **In the last 4 years**: 31 publications cited 105 times in Google Scholar; 27 publications cited 68 times in Scopus; 19 publications cited 28 times in ISI-WoS.
- **Indexed Journal Papers**: 6 Q1; 2 Q2; 3 Q3; 1 Q4 (ISI-JCR), 16 Q1&Q2 (Scopus).
- **6 participations** in editorial committees of international journals; **57 participations** in program committees of international conferences and workshops; **guest co-editor** of 2 special issues of international journals; **co-editor** of 2 books; **reviewer** for several international journal and conferences.
- About **34 M€** of **attracted funding** with the proposition of 7 successful research initiatives; **coordination** of 8 research project (budget of more than 20 M€); **participation** as researcher in several other initiatives.
- **Long-lasting collaboration with the Open University of Catalonia**: joint **research project ALICE** “*Adaptive Learning via Intuitive, Interactive, Collaborative and Emotional systems*”, co-financed by EC on the ICT priority of FP7 in 2010-2012; joint organization of a series of the **7 annual workshops** ALICE ([www.alicews.eu](http://www.alicews.eu)) in 2011-2017; guest co-editorship of **2 special issues** of the *International Journal of Emerging Technologies in Learning* in 2015-2016; structured collaboration with the **SmartLearn** UOC research group since 2017; co-authorship of several **research papers** [R4], [R15], [C2].

## Research Positions

- Since 2017: Member of the SmartLearn Research Group at the Open University of Catalonia.
- Since 2003: Scientific Officer at the University of Salerno, Department of Computer Engineering, Electrical Engineering and Applied Mathematics (DIEM).
- From 1998 to 2010: Collaborator and responsible of research projects. Research Centre in Pure and Applied Mathematics (CRMPA), Salerno, Italy.
- From 2005 to 2009: Collaborator in research projects. University of Sannio, Centre of Excellence on Software Technology (RCOST), Benevento, Italy.
- From 2004 to 2006: Collaborator in research projects. MOMA Software and Research, Salerno, Italy.
- From 1999 to 2003: Holder of Research Fellowship for the topic “Artificial Intelligence”. University of Salerno, Department of Information Engineering and Applied Mathematics.

## Post-Graduate Training

- From 2015 to 2017: Ph.D. Course in Computer Science and Computer Engineering. University of Salerno, Department of Department of Computer Engineering, Electrical Engineering and Applied Mathematics.
- 2005: Professional Training Course “Project Management”. NexTarget, Rome.
- 2000: Course “Multimedia Technology for Internet Applications” and “Advanced Infrastructures for e-Business on the Internet”. University of Salerno, Department of Information and Electrical Engineering.
- 1999: Annual Post-graduate Course “Mathematical Multimedia Software and Applications to Simulation Optimization and Decision Support”. University of Salerno, Department of Information Engineering and Applied Mathematics.

## Summary of scientific and professional career

Below a summary of the scientific activities, divided into three main research themes, is provided. References to connected papers are also given.

### • **Soft Computing**

The first phase of my scientific career, which began with the Degree Thesis carried out at the Astronomical Observatory of Capodimonte (NA), was focused on Soft Computing techniques applied in a project aimed at defining a catalogue of celestial bodies. The use of non-linear Principal Component Analysis methods, combined with the application of neural networks, made it possible to obtain accurate results both for the segmentation of astronomical images and for the classification of detected objects. The research, which resulted in the papers [R12], [C47] and [C48], has also introduced an innovative approach to the labelling of unsupervised neural networks [R13]. After that, I also studied the application of Neural Networks in other areas including Information Security and user authentication [C46].

Since 2015, as part of the activities of my Ph.D. in Computer Science and Computer Engineering at the University of Salerno, I studied the application of fuzzy approaches to Group Decision Making (GDM) by defining a new GDM model able to take social influence into account [R1] and a new user-friendly model for the expression of preferences on the alternatives to be evaluated, called Fuzzy Rankings [R2]. In [R5], [R15], [C1] and [C2] I have also studied the applications of these methods for peer assessment in massive learning systems as well as to improve the outcomes of group recommender systems.

### • **Artificial Intelligence in Education**

Since I began my collaboration with the Department of Information Engineering and Applied Mathematics of the University of Salerno and the Centre for Research in Pure and Applied Mathematics (CRMPA), my research interests have evolved towards Knowledge Representation and its applications to Web Systems with particular reference to Intelligent Tutoring Systems. From the professional point of view this has resulted in an annual scholarship at the department, followed by a research grant for a period of 4 years. At

the same time, the collaboration with the CRMPA resulted in the participation in national and international research projects.

Within this research line, in [L15], [C43], [C44] and [C45], I proposed an agent based system able to generate personalized learning paths based on explicit modelling of knowledge with Conceptual Graphs and of learners with Fuzzy techniques. In [C37] and [C41] such results have been improved introducing more elaborate Planning, Description Logics and Machine Learning techniques. At this point the search was mature enough for the definition of a complete Adaptive Learning system called IWT (Intelligent Web Teacher). The prototype, whose innovative features have been described in [R27], [R33] and [C20], has now become a commercial product distributed by "MOMA Software and Research", a spin-off of CRMPA.

Thanks to the experience gained on the topic, I was appointed head of the research line "Smart Features for Learning" of the Centre of Excellence "Methods and Systems for Learning and Knowledge" and Steering Committee Member of the SIG "Artificial Intelligence and Education" of the European Network of Excellence "Kaleidoscope: Concepts and Methods for Exploring the Future of e-Learning with Digital Technologies". I was also appointed coordinator of research projects on these topics and being invited to the editorial and program committees of several related journals and conference. Among other things, I organized the series of ALICE workshops about the applications to the teaching of artificial intelligence.

The relationship with the Department was consolidated with the qualification, taken in 2003, of scientific officer while new scientific collaborations have been active with the University of Sannio and the private company MOMA. The research continued with the study and the proposition of innovations to IWT models and methodologies. In particular, [R11] and [C30] have introduced the support to the Learning Styles according to the Felder and Silverman model; [L13] and [C39] have described the integration of Case Based Reasoning techniques and Simulation tools to support the learning-by-doing paradigm; [C33] has proposed an evolution of the system for mobile devices; [C23] has proposed a method for composing teaching experiences starting from a training need expressed in natural language. These developments were discussed and systematized in [R9] and [L6].

In [R10], further development of IWT for a better integration into business processes, covering all stages of the training life cycle, were discussed, also considering connections with Knowledge Management systems and the addition of Knowledge Elicitation and Sharing features. In this context, in [C14] I have proposed an approach to improve the search and retrieval of business skills through the definition and the propagation of a Trust measure. In [L5] and [C27] such vision evolved towards the so called Knowledge Virtual Enterprise while in [C18] its impacts on the Enterprise 2.0 paradigm have been considered.

Then I have focused my work on Collaborative Learning and I have defined, in [R26], [C16] and [C21], some prototypes for the automatic composition of collaborative learning experiences on the basis of pre-defined "pedagogical templates". In [R2], [R16], [R20], [R25], [R8], [C3] and [C11] I have defined dynamic adaptation techniques for learning experiences based on Simulations and Storytelling that take into account the complex structure of such resources and the educational objectives gradually achieved by the student. These techniques have been integrated, in [R24], [L1] and [C6], with emotional assessment features. In [R23] and [C12], I eventually defined a generic methodology for adaptation of complex, semantically described, educational resources while, in [C35] and [C42], I have focused on the teaching of mathematics and the automatic generation of exercises.

- **Knowledge-Based Systems**

This line of research, developed together with the previous one, mainly resulted in the definition of adaptive learning systems but also interested other fields. First, already in [R32], I studied the application of Ontologies for the management of knowledge in software systems. In [C22] I defined a system for automatic extraction of Ontologies for education, starting from the analysis of textual learning content; in [C24], I studied how to extend Ontologies for teaching by exploiting student defined tags. In [R22] and [C13] I have applied Ontologies to the modelling of learning contexts.

As part of this research line, I have also studied algorithms and systems for Information Filtering and Recommendation. Regarding the first theme, in [L14], I have defined an agent-based Web information filtering system applying Focused Crawling and Machine Learning techniques. In [C19] and [C38] I have also defined specific filtering systems for the medical field and, in particular, for searching within distributed clinical data repositories while, in [C7] and [C8], I have defined an Ontology-based system for the classification and the assisted writing of legal documents. The evolution of this system has led in [R17] and [C4] to the defini-

tion of a complete system for the retrieval of relevant legal documents starting from a legal case expressed in natural language.

In [R18], [R30], [L16], [L17] and [C9] I have defined a Recommender System for teaching resources able to hybridize a “knowledge based” approach, relying on the semantic description of available resources, with a “collaborative” one, based on the behaviour of users with similar interests. In [R6], [L2] and [C10] I have extended and supplemented these techniques for the teaching domain in order to suggest learning objectives and elicit latent formative needs based on a learner's previous history, cognitive state and similarities with other learners.

In this area I have also considered aspects of Human-Computer Interaction. For example, in [R28], [C17] and [C50] I have studied the use of perceptual, affective and attentive interfaces to improve the interaction with an online system; in [R19] I have defined an approach for the estimation of user personality traits based on the analysis of his social activities. In [R21] and [C15] I have also proposed a technique, based on Social Network Analysis, to optimize the assignment of roles to the students in collaborative learning experiences. Finally, in [R5], [R19] and [C5], I considered the application of adaptive techniques to improve the user experience in an art museum.

- **Distributed Architectures**

Within this line of research, in [L12], [C32], [C34] and [C36] I have described the operation of a Virtual Learning Organisation (VLO), composed by entities offering educational services and users exploiting these services in a stand-alone or combined way. In [C28] and [C31] I have defined a semantic extension of the IMS Learning Design specification to allow the discovery and the dynamic aggregation of resources and educational services available in a VLO. In [L4] I studied techniques enabling services adaptation based on device properties, user preferences and communication channels while in [L3] I focused on some issues related to management of a VLO.

Subsequently, in [C25], I have considered the application of Grid architectures to the e-learning in order to ensure a better support in terms of virtualization of distributed resources and of usage of stateful services. As a case study, in [L11] and [C40] I have outlined a migration path of the aforementioned IWT system toward a Grid environment. In [R29], [L7] and [C26] I have also considered the advantages offered by Grid architectures to support B2B collaboration, while in [R4] I have outlined the role of Learning Grids in supporting learner assessment.

The experience gained on VLO and on Grid applied to e-Learning has resulted in my appointment as coordinator of the SIG “Learning Grid” of the aforementioned Network of Excellence “Kaleidoscope”. As part of this experience, I have co-edited the book “Learning Grid Handbook, Concepts, Technologies and Applications” that defines the concept of Learning Grid as a projection on the axis of the pedagogies of the Semantic Grid defined by De Roure. A Definition of Learning Grid is also provided in [L8], while in [L10] I have outlined the architecture and defined a set of pedagogies that best fits this model. Then, in [L9] and [C29], I described a set of scenarios in which the Learning Grid becomes an enabling technology.

## Teaching

- Responsible for the Post Graduate Advanced Training program “Modern” for the training of experts about methodologies and technologies for Enterprise 2.0 (1,400 hours) organized by the Centre of Excellence in Methods and Systems for Competitive Enterprises at the University of Salerno.
- Teacher of the University Course “Fundamentals of Computer Science” (30 hours of frontal teaching) within the Degree in Economics and Management, 1st Year, Department of Business, Management & Innovation Systems of the University of Salerno.
- Teacher of the module “e-Learning Environments and Methods” in the Post Graduate Advanced Training program “e-Learning Project Manager” organized by the Department of Information Engineering and Applied Mathematics of the University of Salerno.
- Teacher of the Professional Training Courses “Methods and Technologies for Knowledge” and “Base Technologies and Tools for Advanced Users” addressed to the employees of the “Council for Research and Experimentation in Agriculture” and organized by the Department of Information Engineering and Applied Mathematics of the University of Salerno.

- Teacher of the Professional Training Course for “Microsoft Access” addressed to the update of technical and administrative staff of the University of Salerno.
- Teacher of the module “Managing Digitization and Multimedia Fruition Projects” within the Undergraduate Training Course “Senior Technician for Communication and Multimedia, Expert in Digitization and Fruition of Documents and Pictures” at the Scientific Lyceum “B. Rescigno” in Roccapiemonte (SA).
- Teacher of the module “Basic Elements for Modelling” within the Undergraduate Training Course “Senior Technician for Communication and Multimedia, Expert of Digitization and Fruition of Cultural Heritage” at the State Institute of Higher Education “E. De Nicola” in Naples.
- Teacher of a training course on the use of a learning management system addressed to secondary school teachers, as part of the project “DiGiScuola: the Digital School for Students in the New Millennium”.
- Teacher of the Professional Training Course “Project Management” addressed to the staff of the Centre for Research in Pure and Applied Mathematics (two editions).
- Collaboration as teacher for classroom exercises within the “Computer Science Laboratory” as part of the Degree in Education, Faculty of Educational Sciences of the University of Salerno.
- Tutor of the University Course “Algorithms and Data Structures” (48 hours) within the Degree in Computer Engineering, 2<sup>nd</sup> Year, Department of Information, Electrical Engineering and Applied Mathematics of the University of Salerno.
- Tutor of the University Course “Programming and Data Structures” (21 hours) within the Degree in Computer Science, 1<sup>st</sup> Year, Department of Computer Science, University of Salerno.
- Tutor of the Post Graduate Advanced Training Course “DigiCULT” for the formation of experts in Cultural Heritage Development with ICT Technologies, organized by the Department of Information Engineering, Electrical Engineering and Applied Mathematics of the University of Salerno.
- Supervisor of the Thesis “Study and Design of the User Interface of an e-Learning Platform According to Criteria of Usability and Adaptability to the Device”, I. Acierno, Master Degree in Computer Science, University of Salerno, 2002-2003.
- Supervisor of the Thesis “Importing and Exporting Ontologies in OWL and DAML+OIL Standards”, D. Mancano, Bachelor Degree in Computer Science, University of Salerno, 2002-2003.

#### **Coordination of research groups and activities**

- Coordinator of the Research Project “Diogene: A Training Web Broker for ICT Professionals” co-financed by the European Commission on the IST priority of FP5 (IST-2001-3.2.1, ref. 33358, budget 2.6 M€, duration 30 months). The project involved eight European organizations and was aimed at designing, prototyping and testing of a Virtual Organization for teaching.
- Coordinator of the Research Project “InTraServ: Intelligent Training Service for Management Training in SMEs” co-financed by the European Commission on the IST priority of FP5 (IST-2000-3.2.3, ref. 29377, budget 332 K€, duration 16 months). The project involved six European organizations for the testing of an adaptive e-learning system for the training of company managers.
- Member of the Network of Excellence “Kaleidoscope: Concepts and Methods for Exploring the Future of e-Learning with Digital Technologies” which included 72 European and international scientific organizations (project co-funded by the European Commission on the IST priority of FP6, IST-2002-3.1.12, ref. 507838, budget 9.4 M€, duration 48 months). Within the network I played the role of: coordinator of the Special Interest Group (SIG) on “Learning Grid”; Steering Committee member of the SIG “Artificial Intelligence and Education”; Steering Committee member of the Joint Action “Semantic Web and e-Learning”.
- Responsible of the Research Line “Intelligent Functionality for Learning” of the Centre of Excellence “Methods and Systems for Learning and Knowledge” funded by the Italian Ministry of Education and Research (duration 36 months) and managed by the Department of Information Engineering and Applied Mathematics of the University of Salerno.

- Scientific Supervisor for the Research Centre in Pure and Applied Mathematics (CRMPA) of the research project “GeCoSan: Knowledge Management in Healthcare” funded by the Italian Ministry of Education and Research and coordinated by the National Agency for New Technologies, Energy and Sustainable Economic Development (duration 23 months). The role of CRMPA was aimed at creating a system for Continuing Medical Education (CME).
- Scientific Responsible for the CRMPA of the research project “m-Learning: Mobile Communications Technologies for Young Adults Learning and Skills Development” co-financed by the European Commission on the priority IST of FP5 (IST-2000-3.2.2, ref. 25270, budget 4.6 M€, duration 19 months). The project involved 5 European organizations and was aimed at the development and testing of an advanced e-learning system available through mobile devices.
- Project Manager for the CRMPA of the research project “M&S-SW: Methods and Tools for Software Development, Training and Applications” co-financed by the Italian Ministry of Education and Research (duration 14 months), and involving four regional organizations. The role of CRMPA was aimed at the development of a prototype Web Search Agent applying information filtering and profiling techniques.
- Responsible for Research and Technology for the research project ALICE “Adaptive Learning via Intuitive, Interactive, Collaborative and Emotional systems”, co-financed by the European Commission on the ICT priority of FP7 (ICT-04.02.2009, ref. 257639, budget 2.4 M€, duration 7 months). The project involved 5 European organizations and was aimed at testing innovative approaches to e-learning based on collaboration, adaptivity, serious games and emotional assessment.

#### **Participation in Research Projects**

- L&K “Learning and Knowledge”, Research Project co-funded by the Italian Ministry of Education and Research. Duration: 36 months Role: Researcher.
- QualiPSo “Quality platform for open source software”, Integrated Research Project co-funded by the European Commission within FP6-IST (IST-2005-2.5.5, ref. 034763). Duration: 12 months, Role: Researcher.
- SIPAQ “Innovative system for production, supply and quality”, Research Project co-funded by the Italian Ministry of Education and Research. Duration: 12 months, Role: Researcher.
- BEINGRID “Business experiments in GRID”, Integrated Research Project co-funded by the European Commission within FP6-IST (IST-2005-2.5.4, ref. 034702). Duration: 9 months, Role: Researcher.
- SAPI “Automatic System for the Visually Impaired”, Research Project co-funded by the Italian Ministry of Education and Research. Duration: 8 months, Role: Researcher.
- KEEN “Knowledge-based Extended Enterprise”, Research Project co-funded by the Italian Ministry of Education and Research. Duration: 8 months, Role: Researcher.
- SimLearning, Research Project co-funded by the Italian Ministry of Education and Research. Duration: 7 months, Role: Researcher.
- ESCOGITARE “A Framework for e-Science Research Institutes in the Agrifood Sector”, Research Project co-funded by the Italian Ministry of Agriculture and Forestry. Duration: two months, role: Researcher.
- INTRASYS “Intelligent training system in technical assistance”, Research Project co-funded by the European Commission on FP4 ESPRIT (area 11.0, ref. 29082). Duration: 6 months, role: Collaborator.
- SIEGE, Research Project co-financed by the Italian Ministry of Education and Research. Duration: 39 months, role: Research Collaborator.
- eJRM “electronic Justice Relationship Management”, Research Project co-financed by the Italian Ministry of Education and Research (cod. PON01\_01286). Duration: 27 months, role: Research Collaborator.
- VIC “Virtual Incubation Centre”, Research Project co-financed by the Italian Ministry of Education and Research. Duration: 14 months, Role: Research Collaborator.

- FIBAC “Exploitation of Innovative Artistic and Cultural Heritage”, Research Project co-financed by the Italian Ministry of Education and Research (cod. PON01\_02705). Duration: 12 months, Role: Research Collaborator.
- WISE “Wireless Services: an user centric approach”, Research Project co-financed by the Italian Ministry of Education and Research. Duration: 10 months, role: Research Collaborator.
- Syntesis “Security and Intelligence System”, Research Project co-financed by the Italian Ministry of Education and Research (cod. PON01\_01687). Duration: 5 months, role: Research Collaborator.
- Easy Rider, Research Project co-financed by the Italian Ministry of Economic Development. Duration: 3 months, Role: Research Collaborator.
- HealthOnNet, Research Project co-financed by the regional government of Campania. Duration: 13 months, role: Research Collaborator.
- NewGenLearn “Service and Advanced Applications for New Generation e-Learning”, Research Project co-financed by the regional government of Campania. Duration: 12 months, Role: Research Collaborator.
- INNGOV “Research, Development and Testing of New Models for the Management of m-Gov services”, Research Project co-financed by the regional government of Campania. Duration: 9 months, Role: Research Collaborator.
- Beatrice “Multimedia ICT Integrated Prototype for the Production, Aggregation and Multi-channel Distribution of Value Added Content”, Research Project co-financed by the regional government of Campania. Duration: 3 months, Role: Research Collaborator.
- DiALTA “Dissemination of tobacco alternative cultivations”, Dissemination Project co-financed by the Italian Ministry for Agriculture and Forestry (two editions). Duration: 21 months, role: Collaborator.

### **Ability to attract funding**

I managed the preparation and the proposition of the following research projects, judged worthy of funding, on competitive national and international calls.

- DIOGENE “A Training Web Broker for ICT Professionals”, Research Project co-funded by the European Commission under FP5-IST (IST-2001-3.2.1, ref. 33358, budget 2.6 M€).
- ALICE “Adaptive Learning via Intuitive, Interactive, Collaborative and Emotional systems”, Collaborative Research Project co-funded by the European Commission under FP7-ICT (ICT-04/02/2009, ref. 257639, budget 2.4 M€).
- INTRASERV “Intelligent Training Service for Management Training in SMEs”, Research Project co-funded by the European Commission under FP5-IST (IST-2000-3.2.3, ref. 29377, budget 332 K€) .
- INVIMALL “Intelligent Virtual Mall”, Research Project co-funded by the Italian Ministry of Economic Development (cod. MI01-00123, budget 8.4 M€).
- DIGICULT “Enhancement of Diffused Cultural Heritage” Research Project co-funded by the Italian Ministry of Education and Research (cod. PON01\_02880, budget 9.9 M€ ).
- L&K “Learning and Knowledge”, Research Project co-funded by the Italian Ministry of Education and Research (budget 9.4 M€).
- NewGenLearn “Service and Advanced Applications for New Generation e-Learning”, Research Project co-financed by the regional government of Campania (budget 1.3 M€).

I contributed to the proposition of several other research projects deemed worthy of funding, preparing and integrating contributions related to my research interests.

### **Participation in editorial boards of scientific journals and books**

- Guest Editor for the International Journal of Emerging Technologies in Learning, published by International Association of Online Engineering, vol. 10, n. 7, 2015.
- Guest Editor for the International Journal of Emerging Technologies in Learning, published by International Association of Online Engineering, vol. 11, n. 7, 2016.
- Editorial Board Member (since 2017) of the Journal of Contemporary Educational Research, published by Bio-Byword Scientific Publishing.
- Editorial Board Member (since 2010) of the Research Bulletin of Jordan ACM Chapter “Intelligent Semantic Web, Services and Applications”, published by Association for Computing Machinery
- Editorial Board Member (since 2009) of the International Journal of Electronic Democracy, published by Inderscience Publishers.
- Editorial Board Member (from 2009 to 2017) of the International Journal of Knowledge Society Research, published by IGI Global.
- Editorial Board Member (from 2009 to 2016) of the International Journal of Knowledge-Based Organisations, published by IGI Global.
- Editorial Board Member (2009-2016) of the International Journal of Information Technology Project Management, published by IGI Global.
- Review Board Member (since 2014) of the Electronic Journal of e-Learning, published by Academic Conferences and Publishing International Limited.
- Review Board Member (since 2009) of the Journal of e-Learning and Knowledge Society, published by the Italian e-Learning Society.
- Co-Editor of the book “S. Salerno, M. Gaeta, P. Found, N. Capuano, F. Orciouli, S. Miranda, A. Pierri (Eds.), The Learning Grid Handbook: Concepts, Technologies and Applications”, published by IOS Press in the series “The Future of learning”, vol. 2, March 2008, ISBN: 9781586038298.
- Co-Editor of the book “N. Capuano, P. Found, F. Murtagh (Eds.) Proceedings of the 1<sup>st</sup> International Kaleidoscope Learning Grid SIG Workshop on Distributed e-Learning Environments”, published by the British Computer Society in the series “Electronic Workshops in Computing”, March 2005, ISSN 14779358.
- Reviewer for several International Scientific Journals like: Knowledge-Based Systems (Elsevier), Computers in Human Behaviour (Elsevier), IEEE Transactions on Learning Technologies (IEEE), IEEE Transactions on Education (IEEE), Journal of Computer Assisted Learning (John Wiley & Sons), Journal of Ambient Intelligence and Humanized Computing (Springer), User Modelling and User-Adapted Interaction (Springer), World Wide Web Journal (Springer), International Journal of e-Collaboration (IGI Global), Journal of Universal Computer Science (JUICS)

### **Participation in program committees of international conferences**

- Program Committee Member of the 18<sup>th</sup> IEEE International Conference on Advanced Learning Technologies (ICALT 2018), July 9-13, 2018, Bombay, India.
- Program Committee Member of the 14<sup>th</sup> International Conference on Intelligent Tutoring Systems (ITS 2018), June 11-15, 2018, Montreal, Canada.
- Program Committee Member of the 32<sup>nd</sup> IEEE International Conference on Advanced Information Networking and Applications (IEEE AINA-2018), May 16-18, 2018, Cracow, Poland.
- Program Committee Member of the 27<sup>th</sup> International World Wide Web Conference (WWW 2018), April 23-27, 2018, Lyon, France.
- Program Committee Member of the 10<sup>th</sup> International Conferences on Advances in Multimedia (MMEDIA 2018), April 22-26, 2018, Athens, Greece



- Program Committee Member of the 9<sup>th</sup> International Conference on Information and Communication Systems (ICICS 2018), April 3-5, 2018, Irbid, Jordan
- Program Committee Member and Track Co-Chair of the 12<sup>th</sup> International Conference on P2P, Parallel, GRID, Cloud and Internet Computing (3PGCIC 2017), November 8-10, 2017, Barcelona, Spain
- Program Committee Co-Chair of the 7<sup>th</sup> International Workshop on Adaptive Learning via Interactive, Collaborative and Emotional approaches (ALICE 2017), Jointly organized with the 12<sup>th</sup> International Conference on P2P, Parallel, GRID, Cloud and Internet Computing (3PGCIC 2017), November 8-10, 2017, Barcelona, Spain
- Program Committee Member of the 3<sup>rd</sup> International Conference on Cloud Computing Technologies and Applications (CloudTech'17), October 24-26, 2017, Rabat, Morocco.
- Program Committee Member and Track Co-Chair of the 9<sup>th</sup> International Conference on Intelligent Networking and Collaborative Systems (INCoS 2017), August 24-26, 2017, Ryerson University, Canada.
- Program Committee Member of the 11<sup>th</sup> International Conference on e-Learning (e-Learning 2017), July 20-22, 2017, Lisbon, Portugal.
- Program Committee Member of the 17<sup>th</sup> IEEE International Conference on Advanced Learning Technologies (ICALT 2017); July 3-7, 2017, Timisoara, Romania.
- Technical Committee Member of the 9<sup>th</sup> International Conferences on Advances in Multimedia (MMEDIA 2017), April 23-27, 2017, Venice, Italy.
- Program Committee Member of the International Conference on Information and Communication Systems (ICICS 2017), April 4-6, 2017, Irbid, Jordan.
- Program Committee Member of the 26<sup>th</sup> International World Wide Web Conference (WWW 2017), April 3-7, 2017, Perth, Australia.
- Program Committee Member of the 31<sup>st</sup> IEEE International Conference on Advanced Information Networking and Applications (AINA 2017), March 27-29, 2017, Taipei, Taiwan.
- Program Committee Member of the 13<sup>th</sup> ACS/IEEE International Conference on Computer Systems and Applications (AICCSA 2016), November 29-December 2, 2016, Agadir, Morocco.
- Program Committee Member and Track Co-Chair of the 8<sup>th</sup> International Conference on Intelligent Networking and Collaborative Systems (INCoS 2016), September 7-9, 2016, Ostrava, Czech Republic.
- Program Committee Co-Chair of the 6<sup>th</sup> International Workshop on Adaptive Learning via Interactive, Collaborative and Emotional approaches (ALICE 2016) Jointly organized with the 8<sup>th</sup> International Conference on Intelligent Networking and Collaborative Systems (INCoS 2016), September 7-9, 2016, Ostrava, Czech Republic.
- Program Committee Member of the 10<sup>th</sup> International Conference on e-Learning (e-Learning 2016), July 1-3, 2016, Funchal, Madeira, Portugal.
- Program Committee Member of the 13<sup>th</sup> International Conference on Intelligent Tutoring Systems (ITS 2016), June 6-10, 2016, Zagreb, Croatia.
- Program Committee Member of the International Conference on Information and Communication Systems (ICICS 2016), April 5-7, 2016, Irbid, Jordan.
- Technical Committee Member of the 8<sup>th</sup> International Conferences on Advances in Multimedia (MMEDIA 2016), February 21-25, 2016, Lisbon, Portugal.
- Program Committee Member and Track Co-Chair of the 10<sup>th</sup> International Conference on P2P, Parallel, GRID, Cloud and Internet Computing (3PGCIC 2015), November 4-6, 2015, Krakow, Poland.
- Program Committee Co-Chair of the 5<sup>th</sup> International Workshop on Adaptive Learning via Interactive, Collaborative and Emotional approaches (ALICE 2015) Jointly organized with the 7<sup>th</sup> International Conference on Intelligent Networking and Collaborative Systems (INCoS 2015), September 2-4, 2015, Taipei, Taiwan

- Program Committee Member of the 9<sup>th</sup> International Conference on e-Learning (e-Learning 2015), July 21-24, 2015, Las Palmas de Gran Canaria, Spain.
- Technical Committee Member of the 7<sup>th</sup> International Conferences on Advances in Multimedia (MMEDIA 2015), April 19-23, 2015, Barcelona, Spain.
- Program Committee Co-Chair of the 4<sup>th</sup> International Workshop on Adaptive Learning via Interactive, Collaborative and Emotional approaches (ALICE 2014) Jointly organized with the 6<sup>th</sup> International Conference on Intelligent Networking and Collaborative Systems (INCoS 2014), September 10-12, 2014, Salerno, Italy.
- Program Committee Member and Track Co-Chair of the 6<sup>th</sup> International Conference on Intelligent Networking and Collaborative Systems (INCoS 2014), September 10-12, 2014, Salerno, Italy.
- Program Committee Member of the 8<sup>th</sup> International Conference on e-Learning (e-Learning 2014), July 15-18, 2014, Lisbon, Portugal.
- Program Committee Member of the 8<sup>th</sup> International Conference on Complex, Intelligent, and Software Intensive Systems (CISIS 2014), July 2-4, 2014, Birmingham, UK.
- Program Committee Member of the 12<sup>th</sup> International Conference on Intelligent Tutoring Systems (ITS 2014), June 5-9, 2014, Honolulu, Hawaii, US.
- Technical Committee Member of the 6<sup>th</sup> International Conferences on Advances in Multimedia (MMEDIA 2014), February 23-27, 2014, Nice, France.
- Program Committee Member and Track Co-Chair of the 5<sup>th</sup> International Conference on Intelligent Networking and Collaborative Systems (INCoS 2013), September 9 - 11, 2013, Xi'an China.
- Program Committee Member of the IADIS e-Learning 2013 International Conference Jointly organized with the IADIS Multi Conference on Computer Science and Information Systems (MCCSIS 2013), July 23 - 26, 2013, Prague, Czech Republic.
- Program Committee Co-Chair of the 3<sup>rd</sup> International Workshop on Adaptive Learning via Interactive, Collaborative and Emotional approaches (ALICE 2013), Jointly organized with the 7<sup>th</sup> International Conference on Complex, Intelligent, and Software Intensive Systems (CISIS 2013), July 3 - 5, 2013, Taichung, Taiwan.
- Program Committee Co-Chair of the 2<sup>nd</sup> International Workshop on Adaptive Learning via Interactive, Collaborative and Emotional approaches (ALICE 2012), Jointly organized with the 6<sup>th</sup> International Conference on Complex, Intelligent, and Software Intensive Systems (CISIS 2012), July 4 - 6, 2012, Palermo, Italy.
- Program Committee Member of the 11<sup>th</sup> International Conference on Intelligent Tutoring Systems (ITS 2012), June 14-18, 2012, Chania, Crete.
- Technical Committee Member of the International Arab Conference of e-Technology, April 25-27, 2012, Zarqa, Jordan.
- Program Committee Member of the 3<sup>rd</sup> International Conference on Intelligent Networking and Collaborative Systems (INCoS 2011), November 30 - December 2, 2011, Fukuoka, Japan.
- Program Committee Co-Chair of the International Workshop on Adaptive Learning via Interactive, Collaborative and Emotional approaches (ALICE 2011), Jointly organized with the 3<sup>rd</sup> International Conference on Intelligent Networking and Collaborative Systems (INCoS 2011), November 30 - December 2, 2011, Fukuoka, Japan.
- International Review Board Member of the 4<sup>th</sup> World Summit on the Knowledge Society (WSKS 2011), September 21-23, 2011, Mykonos, Greece.
- Program Committee Member of the 8<sup>th</sup> National Congress of the Italian e-Learning Society (Sle-L 2011), September 14-16, 2011, Reggio Emilia, Italy.
- Program Committee Member of the 2<sup>nd</sup> International Conference on Intelligent Networking and Collaborative Systems (INCoS 2010), November 24-26, 2010, Thessaloniki, Greece.
- International Review Board Member of the 3<sup>rd</sup> World Summit on the Knowledge Society (WSKS 2010), September 22-24, 2010, Corfu, Greece.

- Program Committee Member of the 10<sup>th</sup> International Conference on Intelligent Tutoring Systems (ITS 2010), June 14-18, 2010, Pittsburgh, Pennsylvania, USA.
- Program Committee Member of the 4<sup>th</sup> International Conference on Complex, Intelligent and Software Intensive Systems (CISIS 2010), February 15-18, 2010, Krakow, Poland.
- Program Committee Member of the International Conference on Intelligent Networking and Collaborative Systems (INCoS 2009), November 4-6, 2009, Barcelona, Spain.
- Program Committee Member of the 2<sup>nd</sup> World Summit on the Knowledge Society (WSKS 2009), September 16-18, 2009, Chania, Crete, Greece.
- Program Committee Member of the 14<sup>th</sup> International Conference on Artificial Intelligence in Education (AIED2009), July 6-10, 2009, Brighton, UK.
- Program Committee Member of the 3<sup>rd</sup> International Conference on Complex, Intelligent and Software Intensive Systems (CISIS 2009), March 16-19, 2009, Fukuoka, Japan.
- Program Committee Member of the 2<sup>nd</sup> International Workshop on Collaborative e-Learning Systems and Applications (CESA 2009), Jointly organized with the 3<sup>rd</sup> International Conference on Complex, Intelligent and Software Intensive Systems (CISIS 2009), March 16-19, 2009, Fukuoka, Japan.
- Program Committee Member of the World Summit on the Knowledge Society (WSKS 2008), September 24-26, 2008, Athens, Greece.
- Program Committee Member of the International Workshop on Collaborative e-Learning Systems and Applications (CESA 2008), Jointly organized with the 2<sup>nd</sup> International Conference on Complex, Intelligent and Software Intensive Systems (CISIS 2008), March 4-7, 2008, Barcelona, Spain.
- Program Committee Member of the International Workshop on Collaborative System Design and Applications (COSDA 2007), Jointly organized with the 7<sup>th</sup> International Conference on Intelligent Systems Design and Applications (ISDA '07), October 22-24, 2007, Rio de Janeiro, Brazil.
- Program Committee Co-Chair of the 5<sup>th</sup> International Workshop on Ontologies and Semantic Web Services for Intelligent Distributed Educational Systems (SWEL'07), Jointly organized with the 13<sup>th</sup> International Conference on Artificial Intelligence in Education (AIED 2007), July 9-13, 2007, Marina del Rey, Los Angeles, USA.
- Program Committee Member of the International Kaleidoscope Learning GRID SIG Workshop on Distributed e-Learning Environments, March 14, 2005, Vico Equense (NA), Italy.

#### **Invited Talks and recognition for research**

- 12<sup>th</sup> International Conference on P2P, Parallel, GRID, Cloud and Internet Computing (3PGCIC 2017), Best Workshop Paper Award to: N. Capuano, F. Orciuoli "Application of Fuzzy Ordinal Peer Assessment in Formative Evaluation", 2017.
- Keynote Speaker at the 6<sup>th</sup> International Conference on Complex, Intelligent and Software Intensive Systems (CISIS-2012) on the topic "Adaptive Learning Via Intuitive/Interactive, Collaborative And Emotional Systems", Palermo, 2012.
- 1<sup>st</sup> World Summit on the Knowledge Society, 2<sup>nd</sup> Best Paper Award to: Capuano N, Gaeta M, Miranda S, Orciuoli F, Ritrovato P "LIA: an Intelligent Advisor for e-Learning", 2008.
- Invited by the European Commission to give a talk in the "FP6 Programme Consultation Meeting on Knowledge Technologies", PCM-9, Brussels, 2001.

#### **Journal Papers (indexed in ISI-JCR)**

- R1. N. Capuano, F. Chiclana, H. Fujita, E. Herrera-Viedma, V. Loia. Fuzzy Group Decision Making with Incomplete Information Guided by Social Influence. IEEE Transactions of Fuzzy Systems, in press, ISSN: 1063-

- 6706, DOI: 10.1109/TFUZZ.2017.2744605. IF: 7.671, Q1: 4/133, Category: Computer Science, Artificial Intelligence (2016 JCR SE).
- R2. M. AL-Smadi, N. Capuano, C. Guetl. Decoupling Assessment and Serious Games to Support Guided Exploratory Learning in Smart Education, *Journal of Ambient Intelligence and Humanized Computing*, in press, ISSN: 1868-5137, e-ISSN: 1868-5145. IF: 1.588, Q3: 76/133, Category: Computer Science, Artificial Intelligence (2016 JCR SE).
- R3. N. Capuano, V. Loia, F. Orciuoli. A Fuzzy Group Decision Making Model for Ordinal Peer Assessment. *IEEE Transactions on Learning Technologies*, vol. 10, n. 2, pp. 247-259, 2017, ISSN: 1939-1382. IF: 2.267, Q2: 39/105, Category: Computer Science, Interdisciplinary Applications (2016 JCR SE).
- R4. S. Caballé, J. Miguel, F. Xhafa, N. Capuano, J. Conesa. Using Trustworthy Web Services for Secure e-Assessment in Collaborative Learning Grids. *International Journal of Web and Grid Services*, vol. 13, n. 1, pp. 49-74, 2017, ISSN: 1741-1106, e-ISSN: 1741-1114. IF: 1.105, Q3: 108/146, Category: Computer Science, Information Systems (2016 JCR SE).
- R5. N. Capuano, A. Gaeta, G. Guarino, S. Miranda, S. Tomasiello. Enhancing Augmented Reality with Cognitive and Knowledge Perspectives: a Case Study in Museum Exhibitions. *Behaviour & Information Technology*, vol. 35, n. 11, pp. 968-979, 2016, ISSN: 0144-929X. IF: 1.388, Q3: 9/16, Category: Ergonomics (2016 JCR SE).
- R6. N. Capuano, G. D'Aniello, A. Gaeta, S. Miranda. A personality based adaptive approach for information systems. *Computers in Human Behaviour*, Elsevier, vol. 44, pp. 156-165, 2015. ISSN: 0747-5632. IF: 3.435, Q1: 15/129, Category: Psychology, Multidisciplinary (2016 JCR SE).
- R7. N. Capuano, M. Gaeta, P. Ritrovato, S. Salerno. Elicitation of Latent Learning Needs Through Learning Goals Recommendation. *Computers in Human Behaviour*, Elsevier, vol. 30, pp. 663-673, 2014. ISSN: 0747-5632. IF: 3.435, Q1: 15/129, Category: Psychology, Multidisciplinary (2016 JCR SE).
- R8. N. Capuano, G.R. Mangione, A. Pierri, S. Salerno. Learning Goals Recommendation for Self-Regulated Learning. *International Journal of Engineering Education*, vol. 28, n. 6, pp. 1373-1379, November 2012, ISSN: 0949-149X. IF: 0.609, Q4: 66/85, Category: Engineering, Multidisciplinary (2016 JCR SE).
- R9. N. Capuano, M. Gaeta, A. Marengo, S. Miranda, F. Orciuoli, P. Ritrovato. LIA: an Intelligent Advisor for e-Learning. *Interactive Learning Environments*, Taylor & Francis, vol. 17, n. 3, pp. 221-239, 2009, ISSN: 1049-4820, e-ISSN: 1744-5191. IF: 1.674, Q1: 51/235, Category: Education & Educational Research (2016 JCR SE).
- R10. N. Capuano, M. Gaeta, P. Ritrovato, S. Salerno. How to Integrate Technology Enhanced Learning with Business Process Management. *Journal of Knowledge Management*, Emerald Group Publisher, vol. 12 no. 6, pp. 56-71, 2008, ISSN: 1367-3270. IF: 2.053, Q2: 24/85, Category: Information Science & Library Science (2016 JCR SE).
- R11. E. Sangineto, N. Capuano, M. Gaeta, A. Micarelli. Adaptive Course Generation through Learning Styles Representation. *Universal Access in the Information Society*, Springer, vol. 7, no. 1/2, pp. 1-23, April 2008, ISSN: 1615-5289, e-ISSN: 1615-5297. IF: 1.219, Q3: 15/22, Category: Computer Science, Cybernetics (2016 JCR SE).
- R12. S. Andreon, G. Gargiulo, G. Longo, R. Tagliaferri, N. Capuano. Wide Field Imaging, Application of Neural Networks to Object Detection and Star/Galaxy Classification. *Monthly Notices of the Royal Astronomical Society*, Wiley, vol. 319, no. 3, pp. 700-716, 2000, ISSN: 0035-8711, e-ISSN: 1365-2966. IF: 4.961, Q1: 11/63, Category: Astronomy & Astrophysics (2016 JCR SE).
- R13. R. Tagliaferri, N. Capuano, G. Gargiulo. Automated Labeling for Unsupervised Neural Networks: a Hierarchical Approach. *IEEE Transaction on Neural Networks*, IEEE, vol. 10, no. 1, pp. 199-203, 1999, ISSN: 1045-9227. IF: 2.952, Q1: 12/111, Computer Science, Artificial Intelligence (2011 JCR SE).

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- R14. G. Albano, N. Capuano, A. Pierri. Adaptive Peer Grading and Formative Assessment. *Journal of e-Learning and Knowledge Society*, vol.13, n.1, pp. 147-161, 2017, ISSN: 1826-6223, e-ISSN:1971-8829. Indexed in Scoups.
- R15. N. Capuano, S. Caballé, J. Miguel. Improving Peer Grading Reliability with Graph Mining Techniques. *International Journal of Emerging Technologies in Learning*, vol. 11, n. 7, pp. 24-33, 2016, ISSN: 1863-0383. Indexed in Scoups.
- R16. N. Capuano, R. King. Knowledge-based assessment in serious games: an experience on emergency training. *Journal of e-Learning and Knowledge Society*, vol. 11, n. 3, pp. 117-132, 2015. ISSN: 1826-6223, e-ISSN:1971-8829. Indexed in Scoups.
- R17. N. Capuano, A. Longhi, S. Salerno, D. Toti. Ontology-driven Generation of Training Paths in the Legal Domain. *International Journal of Emerging Technologies in Learning*, vol. 10, n. 7, pp. 14-22, 2015. ISSN: 1863-0383. Indexed in Scoups.
- R18. V. Benigno, N. Capuano, G.R. Mangione. A Web-Based Knowledge Hub for Special and Inclusive Education. *International Journal of Emerging Technologies in Learning*, vol. 10, n. 7, pp. 5-13, 2015. ISSN: 1863-0383. Indexed in Scoups.
- R19. A. Gaeta, M. Gaeta, N. Capuano, A. Pierri, G.R. Mangione. A Cultural Re-mediation model for storytelling design in educational contexts. *International Journal of Emerging Technologies in Learning*, vol. 10, n. 7, pp. 39-46, 2015. ISSN: 1863-0383. Indexed in Scoups.
- R20. N. Capuano, A. Gaeta, E. Fratesi, G.R. Mangione. An Adaptive e-Learning System Based on Storytelling for Civil Mediation. *IADIS International Journal on WWW/Internet*, vol.12, n. 1, pp. 1-16, 2014, ISSN: 1645-7641.
- R21. N. Capuano, G.R. Mangione, E. Mazzoni, S. Miranda, F. Orciuoli. Wiring Role Taking in Collaborative Learning Environments. SNA and Semantic Web can improve CSCL script?. *International Journal of Emerging Technologies in Learning*, vol. 9, n. 7, pp. 30-38, 2014. ISSN: 1863-0383. Indexed in Scoups.
- R22. N. Capuano, G.R. Mangione, A. Pierri, S. Salerno. Personalization and Contextualization of Learning Experiences basing on Semantics. *International Journal of Emerging Technologies in Learning*, vol. 9, n. 7, pp. 5-14, 2014. ISSN: 1863-0383. Indexed in Scoups.
- R23. N. Capuano, S. Salerno, G.R. Mangione, A. Pierri. Semantically Connected Learning Resources Fostering Intuitive Guided Learning. *International Journal of Continuing Engineering Education and Life-Long Learning*, Inderscience Publishers, vol. 24, n. 2, pp 122-140, 2014. ISSN: 1560-4624, e-ISSN: 1741-5055. Indexed in Scoups.
- R24. G.R. Mangione, A. Pierri, N. Capuano. Storytelling and Emotional Assessment for Risk Management Education: Empirical Evidences from the ALICE Project. *International Journal of Continuing Engineering Education and Life-Long Learning*, Inderscience Publishers, vol. 24, n. 2, pp 184-211, 2014. ISSN: 1560-4624, e-ISSN: 1741-5055. Indexed in Scoups.
- R25. G.R. Mangione, N. Capuano, F. Orciuoli, P. Ritrovato. Disaster Education: a narrative-based approach to support learning, motivation and students' engagement. *Journal of e-Learning and Knowledge Society*, vol. 9, n. 2, pp. 133-156, 2013. ISSN: 1826-6223, e-ISSN:1971-8829. Indexed in Scoups.
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- R27. G. Adorni, S. Battigelli, D. Brondo, N. Capuano, M. Coccoli, S. Miranda, F. Orciuoli, L. Stanganelli, A. Sughiano, G. Vivanet. CADDIE and IWT: Two Different Ontology-Based Approaches to Anytime, Anywhere and Anybody Learning. *Journal of e-Learning and Knowledge Society*, vol. 6, n. 2, pp. 53-66, 2010, ISSN: 1826-6223, e-ISSN:1971-8829. Indexed in Scoups.
- R28. L. Bevilacqua, N. Capuano, A. Cascone, F. Ceccarini, F. Corvino, C. D'Apice, I. De Furio, G. Scafuro, G. Supino. Advanced User Interfaces for e-Learning. *Journal of e-Learning and Knowledge Society*, vol. 5, n. 3, pp. 91-99, 2009, ISSN: 1826-6223, e-ISSN:19718829. Indexed in Scoups.

- R29. N. Capuano, A. Gaeta, F. Orciuoli, M. Gaeta, S. Miranda, P. Ritrovato. Grid Technologies to Support B2B Collaboration. *International Journal of Knowledge and Learning*, Inderscience Publishers, vol. 5, no. 2, pp. 107-121, 2009, ISSN: 1741-1009, e-ISSN: 1741-1017. Indexed in Scoups.
- R30. V. Benigno, N. Capuano, G. R. Mangione, M. Repetto. Un Repository Semantico per la Special Education. *TD Tecnologie Didattiche*, vol. 21, n. 2, pp. 83-92, 2013. ISSN: 1970-061X.
- R31. N. Capuano. Standard e Sistemi di Certificazione per il Project Management. *Computer Programming*, no. 161, pp. 34-40, Ottobre 2006, ISSN 1123-8526.
- R32. Ontologie OWL: Teoria e Pratica. *Computer Programming* no. 148, 149, 150, Luglio/Agosto, Settembre, Ottobre 2005, ISSN 1123-8526.
- R33. N. Capuano, M. Gaeta, A. Micarelli. IWT: Una Piattaforma Innovativa per la Didattica Intelligente su Web. *AI\*IA Notizie*, Anno XVI, no. 1, pp. 57-61, Marzo 2003.

### Book Chapters

- L1. N. Capuano, G.R. Mangione, A. Pierri, S. Salerno. ALICE: Adaptive Learning via Interactive, Collaborative and Emotional Approaches. J. Jovanovic, R. Chiong (Eds.). *Technological and Social Environments for Interactive Learning*, Chapter 5, pp. 121-172, Informing Science Press, Santa Rosa, California, 2013, ISBN 9781932886733.
- L2. N. Capuano, R. Iannone, M. Gaeta, S. Miranda, P. Ritrovato, S. Salerno. A Recommender System for Learning Goals. M. Lytras, D. Ruan, R. Tennyson, P. Ordonez De Pablos, F. García Peñalvo, L. Rusu (Eds.), *Information Systems, E-learning, and Knowledge Management Research*, Communications in Computer and Information Science Series, Vol. 278, pp. 515-521, Springer-Verlag, Berlin Heidelberg, 2013, ISBN 9783642358784.
- L3. N. Capuano, A. Gaeta, M. Gaeta, F. Orciuoli, D. Brossard, A. Gusmini. Management of Virtual Organizations. T. Dimitrakos, J. Martrat, S. Wesner (Eds.), *Service Oriented Infrastructures and Cloud Service Platforms for the Enterprise*, pp. 49-73, Springer-Verlag, Berlin Heidelberg, 2010, ISBN: 9783642040856.
- L4. N. Capuano, G. De Maio, P. Ritrovato, G. Scibelli. Improving Access to Services through Intelligent Contents Adaptation: The SAPI Framework. M. Lytras, E. Damiani, J. Carroll, R. Tennyson, D. Avison, A. Naeve, A. Dale, P. Lefrere, F. Tan, J. Sipiør, G. Vossen (Eds.), *Visioning and Engineering the Knowledge Society, a Web Science Perspective*, Lecture Notes in Computer Science Series, vol. 5736, pp. 248-258, Springer-Verlag, 2009, ISBN 9783642047534.
- L5. N. Capuano, S. Miranda, F. Orciuoli. E-Learning at Work in the Knowledge Virtual Enterprise. T. Daradoumis, S. Caballe, J. Marques, F. Xhafa (Eds.), *Intelligent Collaborative e-Learning Systems and Applications*, Studies in Computational Intelligence Series, vol. 246, pp. 53-63, Springer-Verlag, Berlin Heidelberg, 2009, ISBN: 9783642040009.
- L6. N. Capuano, M. Gaeta, S. Miranda, F. Orciuoli, P. Ritrovato. LIA: an Intelligent Advisor for e-Learning. M. Lytras, J. Carroll, E. Damiani, R. Tennyson (Eds.), *Emerging Technologies and Information Systems for the Knowledge Society*, Lecture Notes in Computer Science Series, vol. 5288, pp. 187-196, Springer-Verlag, 2008, ISBN 9783540877806.
- L7. N. Capuano, M. Gaeta, S. Miranda, F. Orciuoli, P. Ritrovato. Grid Technologies To Support B2B Collaboration. M. Lytras, J. Carroll, E. Damiani, R. Tennyson, D. Avison, G. Vossen, P. Ordóñez de Pablos (Eds.), *The Open Knowledge Society*, Communications in Computer and Information Science Series, vol. 19, pp. 288-397, Springer-Verlag, 2008, ISBN 9783540877820.
- L8. N. Capuano, M. Gaeta, S. Miranda, F. Orciuoli, P. Ritrovato. The Grid for Learning. M. Lytras, J. Carroll, E. Damiani, R. Tennyson, D. Avison, G. Vossen, P. Ordóñez de Pablos (Eds.), *The Open Knowledge Society*, Communications in Computer and Information Science Series, vol. 19, pp. 57-66, Springer-Verlag, 2008, ISBN 9783540877820.
- L9. N. Capuano, A. Gaeta, S. Paolozzi. Application Scenarios for a Learning Grid. S. Salerno, G. Gaeta, P. Ritrovato, N. Capuano, F. Orciuoli, S. Miranda, A. Pierri (Eds.), *The Learning Grid Handbook: Concepts*,

Technologies and Applications, The Future of Learning Series, vol. 2, pp. 57-70, IOS Press, 2008, ISBN: 9781586038298.

- L10. N. Capuano, M. Gaeta, P. Ritrovato. The Anatomy of the Learning Grid. S. Salerno, G. Gaeta, P. Ritrovato, N. Capuano, F. Orciuoli, S. Miranda, A. Pierri (Eds.), The Learning Grid Handbook: Concepts, Technologies and Applications, The Future of Learning Series, vol. 2, pp. 3-19, IOS Press, 2008, ISBN: 9781586038298.
- L11. N. Capuano, A. Gaeta, G. Laria, F. Orciuoli, P. Ritrovato. How to Use Grid Technology for Building the Next Generation Learning Environments. P. Ritrovato, C. Allison, S.A. Cerri, T. Dimitrakos, M. Gaeta and S. Salerno (Eds.), Towards the Learning Grid: Advances in Human Learning Services, Frontiers in Artificial Intelligence and Applications Series, vol. 127, pp. 182-191, IOS Press, 2005, ISBN: 9781586035341.
- L12. M. Gaeta, N. Capuano, A. Gaeta, F. Orciuoli, L. Pappacena, P. Ritrovato. DIOGENE: A Service Oriented Virtual Organisation for e-Learning. P. Ritrovato, C. Allison, S.A. Cerri, T. Dimitrakos, M. Gaeta and S. Salerno (Eds.), Towards the Learning Grid: Advances in Human Learning Services, Frontiers in Artificial Intelligence and Applications Series, vol. 127, pp. 145-158, IOS Press, 2005, ISBN: 9781586035341.
- L13. N. Capuano, M. Gaeta, L. Pappacena. An e-Learning Platform for SME Manager Upgrade and Its Evolution Toward a Distributed Training Environment. P. Ritrovato, C. Allison, S.A. Cerri, T. Dimitrakos, M. Gaeta and S. Salerno (Eds.), Towards the Learning Grid: Advances in Human Learning Services, Frontiers in Artificial Intelligence and Applications Series, vol. 127, pp. 136-144, IOS Press, 2005, ISBN: 9781586035341.
- L14. N. Capuano, M. Gaeta, F. Gasparetti, A. Micarelli. HOLMES: a Prototype for the Targeted Research of Information About Hi-Tech Companies. A. Abraham, B. Nath, M. Sambandham, P. Saratchandran (Eds.), Computational Intelligence and Applications, 233-238, Dynamic Publishers, 2002, ISBN: 096403980X.
- L15. N. Capuano, M. De Santo, M. Marsella, M. Molinara, S. Salerno. Personalised Intelligent Training on the Web: A Multi Agent Approach. W. Chin, F. Patricelli, V. Milutinovic (Eds.), Electronic Business and Education: Recent Advances in Internet Infrastructures, Multimedia Systems and Applications Series, vol. 20, pp. 125-146, Kluwer, 2001, ISBN: 9780792375084.
- L16. N. Capuano, G. Mangione, S. Salerno. Un repository semantico per la special education: il Knowledge Hub. Guglielmo Trentin (Ed.) Reti e inclusione socio-educativa. Il sistema di supporto WISE, pp. 113-140. Edizioni FrancoAngeli, Milano, Italy, 2012. ISBN 9788856849240.
- L17. V. Benigno, M. Repetto, S. Alvino, N. Capuano, P. Corti, M. Monticelli. La modellizzazione e la catalogazione delle informazioni sui contesti di riferimento di WISE. Guglielmo Trentin (Ed.) Reti e inclusione socio-educativa. Il sistema di supporto WISE, pp. 91-112. Edizioni FrancoAngeli, Milano, Italy, 2012. ISBN 9788856849240.

#### **Papers in Conference Proceedings**

- C1. N. Capuano, F. Orciuoli. Application of Fuzzy Ordinal Peer Assessment in Formative Evaluation. F. Xhafa, S. Caballé, L. Barolli (Eds.), Proceedings of the 12th International Conference on P2P, Parallel, Grid, Cloud and Internet Computing (3PGCIC 2017), Barcelona, Spain, Lecture Notes in Data Engineering and Communication Technologies Series, vol. 13, pp. 555-564, Springer, 2017.
- C2. N. Capuano, S Caballé. Towards Adaptive Peer Assessment for MOOCs. Proceedings of the 10th International Conference on P2P, Parallel, GRID, Cloud and Internet Computing (3PGCIC 2015), November 4-6, 2015, Krakow, Poland, pp. 64-69, 2015, IEEE Computer Society, 2015.
- C3. N. Capuano, R. King. Adaptive Serious Games for Emergency Evacuation Training. F. Xhafa, L. Barolli (Eds.), Proceedings of the 7th International Conference on Intelligent Networking and Collaborative Systems (INCoS 2015), September 2-4, 2015, Taipei, Taiwan, pp. 308-313, IEEE Computer Society, 2014, ISBN 9781467376945N.
- C4. N. Capuano, S. Salerno, C. De Maio. A Knowledge Based System for Guidance and Training on Legal Concepts. F. Xhafa, L. Barolli, F. Palmieri, M. Koeppen, V. Loia (Eds.), Proceedings of the 6th International Conference on Intelligent Networking and Collaborative Systems (INCoS 2014), September 10-12, 2014, Salerno, Italy, pp. 498-503, IEEE Computer Society, 2014, ISBN 9781479963874.

- C5. A. Gaeta, M. Gaeta, N. Capuano, A. Pierri, G.R. Mangione. Enhancing Educational Experiences with Remediation Theory: the Case of the FIBAC Project. F. Xhafa, L. Barolli, F. Palmieri, M. Koeppen, V. Loia (Eds.), Proceedings of the 6th International Conference on Intelligent Networking and Collaborative Systems (INCOS 2014), September 10-12, 2014, Salerno, Italy, pp. 492-497, IEEE Computer Society, 2014, ISBN 9781479963874.
- C6. N. Capuano, C. De Maio, A. Gaeta, G.R. Mangione, S. Salerno, E. Fratesi. A Storytelling Learning Model for Legal Education. M. B. Nunes, M. McPherson (Eds.), Proceedings of the 8th International Conference on e-Learning (EL 2014), part of the 8th Multi-Conference on Computer Science and Information Systems (MCCSIS 2014), July 15-19, 2014, Lisbon, Portugal, pp. 29-36, IADIS, 2014, ISBN 9789898704085.
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### Patented Software

I am co-author of software registered at the Italian Association of Authors and Editors. The software, obtained engineering prototypes resulting from research, includes the following.

- Compound Learning Resource Manager, registered by the Centre for Research in Pure and Applied Mathematics and MOMA on 31/01/2013. The software is based on the engineering of prototypes resulting from

the research project ALICE “Adaptive Learning via Intuitive, Interactive, Collaborative and Emotional Systems”, co-funded by the EC under the FP7-ICT program. The software is currently marketed by MOMA.

- PWLE - Personal Learning and Working Environment, registered by the Centre for Research in Pure and Applied Mathematics and MOMA on 12/11/2012. The software is based on the engineering of prototypes resulting from research in the fields of e-learning and of knowledge management. The software is currently marketed by MOMA.
- OCAL - High-Level Cognitive Objectives, registered by MOMA on 29/04/2011 and based on engineering prototypes resulting from research in the field of knowledge management. The software is currently marketed by MOMA.
- iRecruitment, registered by MOMA on 18/04/2011 and based on engineering prototypes resulting from research activities in the fields of natural language processing and knowledge management. The software is currently marketed by MOMA.
- iPress Manager, registered by MOMA on 18/04/2011 and based on engineering prototypes resulting from research in the fields of automatic text classification and machine learning. The software is currently marketed by MOMA.
- iManual, registered by MOMA on 18/04/2011 and based on engineering prototypes resulting from research in the fields of knowledge management and automatic personalization. The software is currently marketed by MOMA.

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