

CRISTINA GANGAI

Profile

- *Mobile and web applications* ideation and design: web-based queue management system currently in use in all Milano public employment offices.
- *Wireless System Engineering*: feature design and specification for Mobile Radio Systems and Distributed Antenna Systems
- *Information Technology teaching activities*
- *Computer Science degree with honors.*
- *Master in Information and Communication Technologies.*

Professional background

Since 2010: **Owner of MovIdeas** - *Web and mobile applications: system design, project management and business development*

- SenzAttesa, web-based queue management system. The system handles the queue of clients of a public office: reservations can be made via internet or smartphone. The client receives on their smartphones updates on the queue status and a turn alert, thus avoiding to wait in the queue. The system has been realized for AFOL Metropolitana, a major PA agency for employment, which handles thousands of clients per month. The system is currently installed in all employment offices in Milano and around Milano.
- Current license contract from 01/03/2024 to 28/02/2026

Since 2017: **Tutor at Istituto Marangoni Milano – Fashion School and Design School** - “Information Technologies fundamentals”

2014-2017: **DAS (Distributed Antenna Systems) indoor coverage radio projects and feasibility studies at WiArt:**

- Business development: meet main Italian mobile operators (Vodafone, H3G), building portfolio proposition by matching customer’s strategic needs and technology evolution.
- Radio engineering: coordination of Indoor 3G/4G signal measurements campaign at INWIT and raw data analysis.

2007- 2009: **Senior System Engineer at Nokia Siemens Network**

Responsibility for the functional team in charge of the ideation and specification of several mobile system feature packages:

- BTS/BSC Energy saving features, GSM SW based inter-site synchronization, Abis interface specification for supporting Siemens/Nokia technology swap

May 2000 – April 2007: **System Engineer at Siemens Mobile Communications**

Responsible for the functional area “Call Processing Evolution”.

- Design and simulation of algorithms for Mobile WiMAX Physical layer mapping - cooperation with Bologna University; algorithms patented. Design and simulations of algorithms for Mobile WiMAX MAC Scheduler
- Design and specification of network capacity increase features. Dynamic Radio Resources allocation algorithms
- Design and development of a Matlab/C++ system level simulator
- System level simulation of synchronous GSM networks with Frequency Hopping and 1X1 reuse on frequencies.
- Statistical analysis of radio interface performances measurements for Radio Link Control features

1999: **E-health Researcher at Desio Hospital (Milano).** A Neural networks system for medical diagnosis support (heart coronary artery disease), in collaboration with Computer Science Department of Milano Statale University.

1998: **Researcher at the Institute for the Information Multimedia Technologies (ITIM) of the National Research Council in Milano.** A method to perform the approximation of color appearance models by feed-forward neural networks, for industrial application e.g. printers technology.

1997: **E-health researcher at the Department of Biological and Technological Research (DIBIT) of S. Raffaele Hospital in Milano.** On image processing methods for medical diagnosis support. Design, analysis and implementation of AI algorithms neural networks based for the automatic analysis of photographic enlargements of sections of peripheral nerves (Master degree thesis).

1994: **Software Engineer at Andersen Consulting.** SW Engineering Consultant for: Bell Atlantic (Belville, Washington D.C.), Selma Leasing (Milano), Telecom Italia (Roma), and Italiana Petroli (Genova).

Education

1997: **Master in "Advanced Information and Communication Technologies"** (two years)-International Institute for Advanced Scientific Studies (IIASS) of Vietri sul Mare (SA), Italy. MURST scholarship. Master thesis publication. Final grade: 100/100

1994: **Master Degree in Computer Science**, cognitive branch. Statale University, Milano. Final grade: 110/110 with honours. Degree thesis publication.

1987: **High school diploma.** 'Liceo Scientifico Alessandro Volta', Milano.

Post Graduate Classes

2000 - 2009: Several Siemens / Nokia Siemens Networks technical courses in wireless telecommunication area (on average 3 weeks allocated to training courses per year)

2000: Matlab Language course. Training Centre of Teoresi (Torino).

1996/1997: "International School on neural nets E. Caianiello": "Adaptive Processing of Temporal Information" / "Learning in graphical models".

1996: "Soft Computing techniques and experiences: Fuzzy logic, Neural Networks, Genetic algorithms", CNR, Milano.

Computer skills

Expert in Matlab, C, C++.

Familiar with HTML, PHP, Javascript programming languages

Expert in Microsoft Office tools and main operating systems (Windows, Unix).

Web design CMS expert (WordPress, Joomla).

Languages

English: fluent

Publications

"Approximability of the Ground State problem for Certain Ising Spin Glasses" (Journal of Complexity, 1997).

"Automated morphometric analysis in peripheral neuropathies" (Computers in Biology and Medicine, 1997).

"Learning colour appearance models by means of feed-forward neural networks" (Colour research and applications, 1998).

Patents

"A greedy downlink data mapping algorithm for IEEE 802.16e (WiMAX) radio interface, considering PUSC sub-carrier allocation mode".

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