



Sandro Zacchino

WORK EXPERIENCE

[24/01/2024 – Current]

Computer Science Engineer

University of Salento <https://www.unisalento.it>

Address: Piazza Tancredi, 7, 73100, Lecce, Italy | **Name of unit or department:** Technical and technological department | **Business or sector:** Administrative and support service activities

Computer Science Engineer responsible for software design and implementation activities within the working group for digitizing asset data acquisition processes, increasing the resilience of University energy consumption monitoring and facility management services, and defining data aggregation dashboards and periodic reporting strategies.

[30/12/2016 – Current]

Computer scientist

University of Salento <https://www.unisalento.it>

Address: Piazza Tancredi, 7, 73100, Lecce, Italy | **Business or sector:** Education

Design and development of web applications, dashboards and databases for University of Salento Information Systems.

Administrator and developer of University of Salento Institutional Portal (based on Liferay 7.x Community Edition).

Design and development of integration middlewares for University of Salento Web Services.

Design and implementation of core functionalities in the Liferay platform. Design and development of portlets as well as hierarchical structures and templates, taking full advantage of Liferay's OSGI architecture and scripting capabilities.

Design and implementation of Power BI Dashboards and dashboard portlets; for the latter, Apache E-charts and Vega-lite libraries were used to create charts and interactive visualizations.

Design and implementation of Grafana dashboards for the Resources Measure Monitoring RMM project: an in-house developed infrastructure to monitor water, gas and electricity consumption of buildings on the university campus.

[01/12/2023 – 18/03/2024]

Teaching Instructor

University of Salento <https://www.dii.unisalento.it/>

Address: Piazza Tancredi, 7, 73100, Lecce, Italy | **Business or sector:** Education

Teaching and laboratory activities on the topics of Python, Data Science, Machine Learning, Computer Vision and Artificial Intelligence for orientation activities in high schools of the new Computer Engineering degree program at the University of Salento.

[09/02/2022 – 31/03/2022]

Teaching Instructor

Fondazione ITS IOTA Sviluppo Puglia

City: Manduria | **Country:** Italy | **Business or sector:** Education

Teaching instructor for the course: Design Lab for 4.0 solutions, a course about IoT, Digital transformation and technologies for the so called Tourism 4.0

[19/02/2020 – 17/04/2020]

Teaching Instructor

Fondazione ITS Apulia Digital Maker

City: Lecce | **Country:** Italy | **Business or sector:** Education

Teaching instructor for the course: Java programming language (basic and intermediate level).

[07/01/2015 – 29/12/2016]

Technical Specialist

AD Solutions S.r.l.

Address: Viale Unione Sovietica, Torino, Italy | **Business or sector:** Professional, scientific and technical activities

Design and development of modules for Altair Hypermesh Collaboration Tools. Software Engineer in Hypermesh Core Modules.

[01/01/2013 – 31/12/2014] **Computer Science Engineer, Phd**

University of Salento

Address: Piazza Tancredi, 7, 73100, Lecce, Italy | **Business or sector:** Professional, scientific and technical activities

Development of an innovative quality control system to circumvent some of the major drawbacks deriving from adoption of automated cutting systems in the leather industry. A new method to quantify the discrepancies between the geometric data, obtained from a machine vision system, and the nominal model has been developed and a statistical process control was used to monitor the production process. The software was developed in Java using Java Topology Suite for overlay computations and for implementation of computational geometry heuristics.

References

A. Grieco, M. Pacella, S. Zacchino, M. Blaco, "*Image-based control charts for monitoring non linear and closed profiles*", International Journal of Production Research (IJPR) (Submitted on April 2014)

Development of a Decision Support System (DSS) in the field of multimaterial stretchable films. Development of mathematical linear models and heuristics for finding the optimal schedule of a set of orders for the production machines. The models were developed in the Manufacturing Lab of University of Salento and represent an advance in the field of jobs scheduling with multi-attribute dependent setup times. A manuscript describing the main heuristic was submitted to an international conference.

References

P. Caricato, A. Grieco, S. Zacchino, "*Multi-attribute scheduling on unrelated machines*", 20th International Federation of Operational Research Societies(IFORS), Barcellona, 13-18 July, 2014

[16/12/2009 – 15/12/2012] **Computer Science Engineer, Phd**

University of Salento

Address: Piazza Tancredi, 7, 73100, Lecce, Italy | **Business or sector:** Professional, scientific and technical activities

Development of scheduling model by the means of a three stage constraint programming model developed with IBM ILOG OPL Studio. The model was used to perform the optimal scheduling of a multi-level production system used in books production.

[01/02/2008 – 15/12/2009] **Post Doctoral Researcher**

University of Salento

Address: Piazza Tancredi, 7, 73100, Lecce, Italy | **Business or sector:** Professional, scientific and technical activities

Design and development of decision support systems and mathematical models in the field of manufacturing production optimization.

[01/01/2007 – 01/01/2009] **Teaching Instructor, Computer Science Engineer**

University of Salento

Address: Piazza Tancredi, 7, 73100, Lecce, Italy | **Business or sector:** Education

Teaching instructor of a course about optimization modeling with linear programming solvers such as IBM ILOG OPL Studio or GNU GLPK. Department of Innovation Engineering.

[05/11/2005 – 05/11/2007] **Post Doctoral Researcher**

University of Naples Federico II

Address: Piazzale Tecchio, 80, 80125, Napoli, Italy | **Business or sector:** Professional, scientific and technical activities

Development of 2D geometric heuristic for solving the leather nesting problem applied to a world-wide leather firm in the field of leather sofa production.

[01/03/2001 – 01/11/2005] **Computer Science Engineer**

University of Salento

Address: Piazza Tancredi, 7, 73100, Lecce, Italy | **Business or sector:** Professional, scientific and technical activities

Research in the field of simulation and optimization of logistics and manufacturing systems. Authoring and design of DEOS (Discrete Event Object-oriented Simulator), an open-source framework for development of simulators for the manufacturing systems. DEOS was funded by MIUR (Ministry of Education, Universities and Research – FIRB RBNE013SWE, Architectures and information technologies for development and evolution of open-source softwares for distributed simulation in the manufacturing field). DEOS Framework was used for the analysis of complex health system paths and for development of a fuzzy events based simulator.

References

Project Website: <http://sourceforge.net/projects/simdeos/>

P. Caricato, A. Grieco, F. Nucci, S. Zacchino, A. Anglani: "An open-source visual environment for discrete event simulation: DEOS", Conferenza ISCS (Italian Society for Computing Simulation) Naples, Italy, 6 December 2001.

L. Castelluzzo, A. Grieco, F. Nucci, S. Zacchino, A. Anglani: "An Open Source Object-Oriented Architecture for discrete event simulation", European Simulation and Modelling Conference (ESMc), Paris, France, 25-27 October 2004.

PUBLICATIONS

[2001] [**An open-source visual environment for discrete event simulation: DEOS**](#)

Reference: P Caricato, A Grieco, F Nucci, S Zacchino, A Anglani, 2001, Proceedings ISCS 2001

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[2003] [**Measurements of the Performance of the RSVP Protocol**](#)

Reference: TOMMASI, Francesco;MOLENDINI, Simone;ZACCHINO, Sandro, Proceedings of the Workshop Art-QoS 2003

[2003] [**Un'estensibile architettura object-oriented per la simulazione di processi manifatturieri**](#)

Reference: Grieco, S. Zacchino, L. Castelluzzo, Conferenza ISCS

[2004] [**An Open Source Object-Oriented Architecture for discrete event simulation**](#)

Reference: L. Castelluzzo, A. Grieco, F. Nucci, S. Zacchino, A. Anglani, ESMc 2004

[2005] [**An open source object-oriented architecture for discrete event simulation**](#)

Reference: S. Zacchino, A. Anglani, L. Castelluzzo, A. Grieco, F. Nucci, ANIPLA 2005

[2007] [**A new solution for the nesting problem of irregular shapes on irregular containers**](#)

Reference: Grieco, S. Zacchino, 17th International Conference FAIM2007, USA, 2007

[2014] [**Multi-attribute scheduling on unrelated machines**](#)

Reference: P. Caricato, A. Grieco, S. Zacchino, IFORS 2014

EDUCATION AND TRAINING

[16/06/2014 – 20/06/2014] [**Summer School in Constraint Programming**](#)

2014 ACP (Association for Constraint Programming) Summer School in Constraint Programming <https://www.a4cp.org/events/summer-schools>

City: Bologna | **Country:** Italy | **Field(s) of study:** Operation Research ; Computer Science | **NQF Level:** Other

ACP Summer School about "Practical Constraint Programming". Attended lessons about Constraint Programming, OR Tools, ILOG CP and optimization methodologies using CP paradigm.

[01/11/2003 – 01/02/2007] **PhD in Operations Research**

University of Calabria

Address: via Pietro Bucci, 87036, Arcavacata di Rende, Italy | **Field(s) of study:** Operations Research ; Computer Science | **NQF Level:** Advanced university studies (Doctorate)

Development of an optimization heuristic in the field of nesting of irregular (non-convex) 2D shapes inside an irregular 2D container to maximize usage of the container (with application to the case of a leather industry).

References

A. Grieco, S. Zacchino: "A new solution for the nesting problem of irregular shapes on irregular containers", 17th International Conference on Flexible Automation and Intelligent Manufacturing (FAIM2007), Penn State Great Valley, USA, 17-20 June 2007.

[01/11/1992 – 01/02/2001] **Degree in Computer Engineering**

University of Salento

Address: Piazza Tancredi, 7, 73100, Lecce, Italy | **Field(s) of study:** Computer Science ; Internetworking | **NQF Level:** University studies (Master)

Achievement of the degree in Computer Engineering with a dissertation on implementation and performance measurements of RSVP Overhead Reduction Extensions, a set of enhancements to the standard IETF RSVP protocol later standardized in the RFC 2961 "RSVP Refresh Overhead Reduction Extensions".

References

F. Tommasi, S. Molendini, S. Zacchino: "Measurements of the Performance of the RSVP Protocol", in Proceedings of the Workshop on Architectures for Quality of Service in the Internet Art-QoS 2003, Warsaw, Poland, 24-25 March 2003.

IETF RFC 2961: <https://www.rfc-editor.org/rfc/rfc2961.txt>

LANGUAGE SKILLS

Mother tongue(s): Italian

Other language(s):

English

LISTENING B2 READING C1 WRITING C1

SPOKEN PRODUCTION B2 SPOKEN INTERACTION B2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

DRIVING LICENCE

Cars: B

Cars: B1

OTHER SKILLS

Other skills

- Frequently used programming languages: C++, Java, Javascript/Typescript, Python, PHP, C#
- Other, frequently used, domain specific languages: HTML, CSS, Apache Freemarker, Dot, Latex, Markdown, SQL, XSL
- Frequently used design tools: UML, ER-Diagrams, Object Oriented Design
- Frequently used frameworks: Vue.js, Angular, Express/Koa.js/Hono, Laravel, Spring Boot, Liferay/OSGI services, WebSockets

- Common roles at work: Project Manager, Software Architect, Business Analyst, Developer
 - Common skills: use of design patterns, database design, diagrams-as-code (Graphviz/Dot, PlantUML, Mermaid), documents-as-code (Markdown/CSS to PDF, Latex, PrinceXML), versioning systems (Git, Perforce, SVN), open source software scouting, software design, software implementation, Coding Teaching, coding
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