Silvio Barra

Complete professional curriculum — public version

Updated 4 November 2026

Profile, contact and personal information

Associate Professor of Computer Science, Department of Electrical Engineering and Information Technology (DIETI), University of Naples Federico II. Disciplinary field INFO-01/A – Computer Science (formerly INF/01); academic disciplinary group 01/INFO-01; former recruitment field 01/B1.

Scientific profile. Research in computer vision, pattern recognition and artificial intelligence, spanning image and signal representation and the design of application systems. The work combines multimodal biometrics, machine learning and human–AI interaction, with applications to intelligent mobility, health, sports, financial markets and cultural heritage; methods include fusion, ensembles, deep learning, reinforcement learning and generative models.

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https://www.docenti.unina.it/silvio.barra

https://www.silviobarra.com

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https://www.researchgate.net/profile/Silvio_Barra

Scopus: Author profile – Author ID 56005376300. **h-index: 19**. Metrics as of 04/11/2026.

Google Scholar: Publication profile. **h-index: 23**. Metrics as of 04/11/2026.

Italian National Scientific Qualifications (ASN)

2023–2025

Full Professor qualification, 09/H1 – Information Processing Systems. ASN, 2023–2025 call, D.D. 1796/2023; application no. 176199, submitted on 10 November 2025 at 14:34:28. Qualification effective from 30 July 2026 until 30 July 2038. MUR certificate no. 51910, issued on 31 October 2026.

2023–2025

Full Professor qualification, 01/B1 – Informatics. ASN, 2023–2025 call, D.D. 1796/2023; application no. 133802. Qualification effective from 7 March 2025 until 7 March 2037. MUR certificate no. 31168, issued on 8 March 2025.

2018–2020

Associate Professor qualification, 09/H1 – Information Processing Systems. ASN, 2018–2020 call, D.D. 2175/2018; application no. 20100. Qualification effective from 16 January 2020 until 16 January 2032. MUR certificate no. 49891, issued on 1 November 2026.

2018–2020

Associate Professor qualification, 01/B1 – Informatics. ASN, 2018–2020 call, D.D. 2175/2018; application no. 22864. Qualification effective from 14 January 2020 until 14 January 2032. MUR certificate no. 49888, issued on 31 October 2026.

Education

07/03/2016

PhD in Computer Science, University of Cagliari. Thesis: “Design of a Multi-biometric Platform, based on physical traits and physiological measures: Face, Iris, Ear, ECG and EEG.”

26/07/2012

MSc in Computer Science, cum laude, University of Salerno. Thesis: “Un nuovo algoritmo per l’analisi della rappresentatività dei campioni nel riconoscimento dell’iride basato sull’entropia” (an entropy-based algorithm for analysing sample representativeness in iris recognition).

26/02/2009

BSc in Computer Science, cum laude, University of Salerno. Thesis: “User Agent Interface”.

Language qualifications

Italian: native. English: B2 CEFR, ESV Level 1 Certificate in ESOL International All Modes; examination on 30 March 2017, candidate IT-0011019, PASS WITH MERIT. Portuguese: A2, Universidade da Beira Interior, grade 15, “Bom”, 2 ECTS.

Academic appointments and research fellowships

24/10/2025–

Full-time Associate Professor, DIETI, University of Naples Federico II; academic disciplinary group 01/INFO-01 – Computer Science, disciplinary field INFO-01/A – Computer Science. Rector’s Decree no. 4457 of 16 October 2025; appointment under Articles 18(1)(e) and 24(5) of Italian Law 240/2010.

10/2022–10/2025

Fixed-term Researcher, type b (RTDb), DIETI, University of Naples Federico II, 01/B1, INF/01. Selection code 1_RTDB_2022_43; Rector’s Decree 2575 of 21 June 2022.

03/2020–10/2022

Fixed-term Researcher, type a (RTDa), DIETI, University of Naples Federico II, 01/B1, INF/01. Selection code 3_PON_AIM_RTDA_L1_2019; Decree 54 of 19 February 2019, Official Gazette no. 80 of 8 October 2019.

07/2017–02/2020

Fixed-term Researcher, type a (RTDa), Department of Mathematics and Computer Science (DMI), University of Cagliari, 01/B1, INF/01. Selection code rtdaF_0317_01/B1; Rector’s Decree 455 of 24 February 2017, Official Gazette no. 20 of 21 March 2017. MIUR ILEARNTV-funded appointment under Article 24(3)(a), Law 240/2010.

01–12/2016

One-year research fellowship, ICAR-CNR, code ICAR-004-2015-NA. Programme PON03PE_00163_1, Social Network delle Entità dei Centri Storici (SNECS): computer vision and human-computer interaction.

2013–2015

Three-year PhD scholarship, 28th cycle, DMI, University of Cagliari; research in computer vision and biometrics.

01/10–07/12/2012

Annual CeRICT research scholarship, Benevento, Master in Security and Intelligent System, PON01_01687. Activity ended upon admission to the funded PhD programme at the University of Cagliari.

Research interests

Biometrics and multimodal recognition. Face, iris, periocular, ear, hand and gait recognition; physiological EEG and ECG signals. Sample quality, feature selection, denoising, fusion and decision reliability, with a focus on mobile acquisition and unconstrained conditions.

Computer vision and machine learning. Image representation and classification, head pose estimation, facial expression recognition, incremental and 3D object detection, tracking and source camera identification. Neural models, ensembles, fuzzy methods and representative exemplar selection.

Autonomous driving, video surveillance and smart cities. Curriculum learning and deep reinforcement learning for driving; integration of segmentation and depth information. Camera-based traffic analysis, anomaly detection, licence plate recognition, speed estimation and monocular 3D detection in roadside scenarios.

Medical imaging and AI for health. Ultrasound image segmentation and classification, including breast and endometriotic lesions; multi-scale ensembles for lesion localisation. Generative models for intermediate slice synthesis and resolution enhancement of magnetic resonance imaging volumes.

Time series and financial forecasting. Time series-to-image encoding, Gramian Angular Field representations and analysis at multiple temporal resolutions; convolutional neural networks and ensembles for market forecasting and experimental evaluation of trading strategies.

Sports analytics and human–AI interaction. Football match annotation and analysis, voice and touch interfaces, wearable inertial sensors and automated annotation consistency checks. Conversational methodologies for sports performance analysis; multimodal interaction and investigation of visual question answering applications.

Cultural heritage, virtual and augmented reality. Digital reassembly of frescoes and fragments, assisted and automated anastylosis, image matching and evaluation on dedicated datasets. Virtual/augmented reality and reconstruction of objects and scenes for cultural heritage interpretation and access.

Distributed intelligent systems, edge/cloud and IoT. Cloud biometric services, continuous authentication, personalised access and edge processing of biometric data; architectures and data management for IoT and smart cities. Contrastive alignment and communication between neural experts with disjoint observations, investigated in the preprint The Dialectical Space (2026).

Methodological contributions and research resources

2014–2023

Biometric representation, reliability and fusion. Coauthor of methods representing recognition scores and their reliability through complex numbers for multibiometric fusion (2014). The Web-Shaped model addresses exemplar selection for head pose estimation (2020), with a subsequent application to emotion recognition (2023).

2019–2021

Datasets and cultural heritage reconstruction. Coauthor of PhysioUnicaDB, a dataset of simultaneously acquired EEG and ECG signals (2019). Contributions to fresco reassembly through the SIFT-based SAFFO approach (2020), and to supervised and blind digital anastylosis on the DAFNE dataset (2021).

2020

Financial forecasting through visual representations. Coauthor of an approach encoding S&P 500 index futures time series as Gramian Angular Field images at multiple temporal resolutions. An ensemble of convolutional neural networks combines the forecasts, also evaluated through an experimental trading system.

2022–2025

Driving policy learning and roadside analysis. Coauthor of an end-to-end strategy combining curriculum learning and deep reinforcement learning in the CARLA simulator (2022), and an extension using segmentation and depth information (2025). Evaluation and reproducibility studies of monocular 3D detection in roadside scenarios (2023–2024).

2022–2026

Medical image analysis and generation. Contributions to a breast ultrasound segmentation and classification pipeline (2022), a multi-scale convolutional ensemble for endometriotic lesions (2024), and a GAN architecture synthesising intermediate slices between adjacent MRI volume slices (2026).

2020–2025

Systems and interfaces for sports analytics. Contributions to voice interfaces for football tagging (2020) and to FootApp (2023): voice and touch annotation, inertial signal analysis and label inconsistency detection. Coauthor of CHAMPIonS (2025), addressing conversational human–AI methodologies for sports performance.

Research projects and scientific responsibilities

2026

Funding programme: FRA 2024, type B.
GAINS – Generative AI-enhanced Networks and Security
Status: Active. **Period:** 2026–2029.
Role: Co-proponent, DIETI, University of Naples Federico II.
Amounts: €60,000; FRA 2024, type B; corresponding proponent: Donatella Darsena. **Budget management:** shared with Davide Cozzolino and Donatella Darsena, with no separate individual allocation.
Description: Secure semantic communications for next-generation networks using generative AI. Robust models against deepfakes, jamming and eavesdropping, with latency and energy constraints. Contribution to security, adversarial training and experimental evaluation (WP2–WP4).

2026

Funding programme: PN RIC 2021–2027, Action 1.1.2.
SINTESI – Sistemi cyber-fisici INTElligenti e SIcuri per la sanità, l’industria e la società
Status: Active. **Period:** Start 06/2026; duration 24 months.
Role: WP1 Leader for Action 1.1.2, UNINA unit.
Amounts: €9,000,000.01 for Action 1.1.2, code 962_QIIR112_00040, CUP B69H26000910007; UNINA allocation €810,000 (across multiple WPs). Managed WP1 funding: .
Description: Intelligent and secure cyber-physical systems for healthcare, industry and society (PN RIC 2021–2027). WP1 HEALTH-CARE integrates AI and cybersecurity for diagnostics and clinical decision support. Focus on personalisation, robustness, explainability and data protection.

2026

Funding programme: PRIN 2026, PE6.
ATHENA – Agentic Trustworthy & Human-supervised ENvironments for AI
Status: Active; start date to be confirmed. **Period:** Ranking approved 08/10/2026; planned duration 36 months.
Role: Head of the UNINA Research Unit; national PI: Luigi Troiano, University of Salerno.
Amounts: €1,199,995 MUR grant plus €563,170 co-financing (total cost €1,763,165). **Managed unit budget:** €305,399, comprising €209,999 MUR and €95,400 co-financing. PRIN 2026, PE6, grant 2026P7R5JT (UNINA unit 003); ranked first with 99.50/100.
Description: Declarative environments for trustworthy agentic AI with human oversight (36 months). Modelling and verification of agent behaviour, memory, constraints and policies. UNINA leads A4: trustworthiness, security and compliance, including explainability, auditability and data protection.

2025

Funding programme: MIMIT, Agreements for Innovation, second funding window.
SHINE-QC – Hardware and Software Solutions for the Engineering of a Quantum Computing Platform
Status: Active. **Period:** 03/06/2025–02/06/2028.
Role: Participant in research activities OR1–OR4, CeSMA, University of Naples Federico II; CeSMA project lead: Leopoldo Angrisani.
Amounts: MIMIT financial commitment €2,332,881.94; research and development cost €5,550,560.
Managed allocation: no personal allocation. Agreements for Innovation, second funding window, Ministerial Decree of 31 December 2021; project F/350362/03/X60, CUP B69J25000260005. Lead partner: Test and Manufacturing Engineering S.r.l.; partners: Faticoni S.p.A. and University of Naples Federico II.
Description: Quantum hardware characterisation and development of a user interface for programming and refining quantum algorithms. Use of the 5-qubit SeeQC-red and the 24-qubit UNINA superconducting platforms. Technology transfer of research results to industrial and economic applications.

SILAR
Status: Active.
Role: Participant.
Managed allocation: no personal budget allocation.

2024

Funding programme: Campania Startup 2023, Campania ERDF 2021–2027.
PRESSING – Progetto di sviluppo di strumenti innovativi di analisi delle prestazioni sportive
Status: Completed. **Period:** 07/2024–10/2025; 15 months.
Role: Scientific lead since 4 April 2024, responsible for scientific and technical work on digital and technological innovation. Beneficiary: KICKTECK S.r.l., established by the proponents to implement the project.
Amounts: €287,700 public grant (70%); approved cost €411,000; co-financing €123,300. Budget awarded to KICKTECK, with no personal allocation. Campania Startup 2023, PR Campania ERDF 2021–2027, Axis 1, SO 1.1, Action 1.1.3; CUP B68I23005880007, SURF 23071BP000000067; grant decree 365 of 19 July 2024.
Description: Developed a bidirectional conversational interface, including voice interaction, deployed on AWS EC2 to query player and ball spatiotemporal data and extract customised football KPIs. Python/LangChain system combining RAG and supervised fine-tuning of GPT-4o-mini to translate requests into API endpoints, integrated with a match-analysis engine and a historical data store. Integrated HawkEye and, partially, OPTA Vision data through ETL normalisation; completed development and testing, with pilot-system validation in an operational environment (TRL 7), exception handling and missing-data management.

2022

Funding programme: FRA 2022.
GATT – GAmification in Teaching Testing
Status: Completed. **Period:** Planned duration: 36 months.
Role: Co-proponent, DIETI, University of Naples Federico II; corresponding proponent: Porfirio Tramontana; other co-proponent: Domenico Amalfitano. Participation in WP1–WP6 and responsibility for database-related activities in WP2–WP5: design of learning activities and teaching materials, supervision of gamification prototypes and empirical studies.
Amounts: total proposed budget €60,000: research associate contracts €46,000, equipment €5,000, travel and conferences €6,000, indirect costs €3,000. **Managed allocation:** no personal allocation. Planned duration: 36 months.
Description: Gamification to introduce software testing in the early years of Computer Science and Computer Engineering degrees, integrating it into programming and database courses. Design of games, prototypes and modular teaching materials through an iterative design-science methodology. Empirical evaluation of test-suite quality, learning outcomes, student engagement and satisfaction.

2021

Funding programme: FRA 2020, Line A.
FRONTIER – Forensic Robots for in-situ Holographic Reconstruction of Crime Dynamics in a Post-Bloody Event Scenario
Status: Completed. **Period:** Start 01/01/2021.
Role: Co-proponent, DIETI, University of Naples Federico II; corresponding proponent: Giovanni Acampora, Department of Physics “Ettore Pancini”.
Amounts: €40,000; FRA 2020, Line A; CUP E69C20000380005. **Managed allocation:** no personal allocation.
Description: Forensic robotics for in-situ holographic reconstruction of crime dynamics following events involving bloodshed. The project investigates technologies for representing and analysing crime scenes. Applications include mixed-reality environments for training police officers to tag evidence.

2020

Funding programme: Sardinia ERDF ROP 2014–2020, Action 1.3.1.
SafeSpotter: AI for Smart Cities
Status: Completed. **Period:** 24/06/2020–16/12/2021.
Role: Scientific lead; PI: Salvatore Mario Carta, University of Cagliari.
Amounts: contract award €289,359.14 excluding VAT, awarded to the consortium of BeeToBit S.r.l., Arkys S.r.l. and the University of Cagliari; Sardinia ERDF ROP 2014–2020, Action 1.3.1. CUP C36H17000000006; CIG 7868484E65. Project period: 24 June 2020–16 December 2021.
Description: Road-anomaly video surveillance tested in Monserrato (Cagliari), under Action 1.3.1 “Promoting new markets for innovation”. Three cooperating modules: streetlight cameras and microphones, centralised collection integrating traffic and weather feeds, and continuous learning. First-level anomaly rules are combined with machine learning on heterogeneous data to provide services to road users and vehicles.

2020

Funding programme: National Scientific Degrees Programme.
PLS – Piano Nazionale Lauree Scientifiche
Status: Completed. **Period:** 2020–2022.
Role: Collaborator in laboratory organisation.
Amounts: Not specified.
Description: Game Design, Robotics and Biometrics & IoT laboratories for secondary-school students in the province of Naples.

2019

Funding programme: Fondazione di Sardegna, 2018 funding programme.
A2DAM – Action/Activity Dual Acquisition Mode
Status: Completed. **Period:** Start 01/07/2019; two-year project.
Role: Principal Investigator.
Amounts: €29,500; Fondazione di Sardegna, 2018 funding programme, two-year project; Rector’s Decree 946 of 5 October 2018.
Description: Action and activity analysis and classification using distributed visual acquisition and wearable sensors. Feature extraction from accelerometers, gyroscopes and GPS and association across acquisition modalities.

2019

Funding programme: PRIN 2017.
PREVUE – Prediction of Activities and Events by Vision in an Urban Environment
Status: Completed. **Period:** Start 06/03/2019.
Role: Task Leader, T2.2 “Next/Best Camera Prediction”, WP2; UNISA unit and WP2 lead: Michele Nappi.
Amounts: €832,000; PRIN 2017.
Description: Prediction of urban activities and events using machine learning, artificial intelligence and computer vision. Task T2.2 identifies the next camera to query when tracking object trajectories and analysing behaviour. The task belongs to WP2 “Prediction: the Urban CONTEXT”.

2018

Funding programme: Sardinia ERDF ROP 2014–2020, Action 1.1.3.
MISTER – Match Information System and Technologies for the Evaluation of the peRformance
Status: Completed. **Period:** Start 01/10/2018.
Role: Scientific contact.
Amounts: €314,186.54; Sardinia ERDF ROP 2014–2020, Axis 1, Action 1.1.3, Strategy 2 “Creating job opportunities by supporting business competitiveness”, Programme 3 “Business competitiveness”.
Description: Football match analysis using video, wearable sensors and analyst expertise, by a temporary association between University of Cagliari DMI and FootureLab S.r.l. (Sassari operating office). Multi-source acquisition, voice and touch interfaces for tagging and semi-automatic post-processing using machine learning.

2018

Funding programme: Sardinia ERDF ROP 2014–2020, Action 1.1.3.
IntelliCredit – AI-powered digital lending platform
Status: Completed. **Period:** Start 01/01/2018.
Role: Scientific contact.
Amounts: €593,638; Sardinia ERDF ROP 2014–2020, Axis 1, Action 1.1.3, Strategy 2 “Creating job opportunities by supporting business competitiveness”, Programme 3 “Business competitiveness”.
Description: AI and Big Data platform for credit scoring using open banking data, developed by a temporary association between University of Cagliari DMI and PayFolder S.r.l.. Risk assessment and access to credit without traditional income documentation, supporting loan pricing.

2017

Funding programme: MIUR, Smart Cities and Communities and Social Innovation.
ILEARNTV, Anytime, Anywhere
Status: Completed. **Period:** Participation started 01/07/2017.
Role: Participant, University of Cagliari; scientific lead: Gianni Fenu.
Amounts: €12,000,000; MIUR, Smart Cities and Communities and Social Innovation; Decree 1937 of 5 June 2014, CUP F74G14000200008 and F19G14000910008.
Description: Continuous authentication of teachers and students and multi-channel access to Enhanced Learning Objects. Content delivery through Smart TVs, PCs, tablets and smartphones. http://www.ilearntv.it/

2017

Funding programme: PRIN 2015.
COSMOS – COntactlesS Multibiometric mObile System in-the-wild
Status: Completed. **Period:** Start 10/04/2017.
Role: Hand biometrics Task Leader; PI: Michele Nappi.
Amounts: Not specified.
Description: Extension of a multibiometric system to hand recognition in uncontrolled environments, under PRIN 2015. Design, preprocessing and segmentation; related output: “A hand-based biometric system in visible light for mobile environments”.

2012

Funding programme: PON R&C 2007–2013.
SINTESYS – Security and INTElligence SYStem
Status: Completed. **Period:** Participation 2012; training 01/01/2012–31/07/2014.
Role: Participant, CeRICT research scholarship under training project PON01_01687-F, associated with the Master in Security and INTElligence SYStem.
Amounts: training project, €787,250 public grant and €826,470 cost; associated industrial research project PON01_01687, €4,759,549.70 public grant and €9,560,682 cost. PON R&C 2007–2013.
Description: The research project develops technologies to analyse and correlate open sources and multimodal data for public security. The training programme prepares ICT experts in risk analysis, countermeasure design and integrated security solutions. Training project period: 1 January 2012–31 July 2014; personal participation in 2012.

2011

Funding programme: Not specified.
Bosco di San Francesco
Status: Completed. **Period:** 2011–2012.
Role: Participant, HQuadro S.r.l..
Amounts: Not specified.
Description: Study and implementation of Android software for locating A-TAG3 radio beacons.

2010

Funding programme: Erasmus Intensive Programme.
SAVRO-IP
Status: Completed. **Period:** 14/02/2010–06/03/2010.
Role: Participant, Erasmus Intensive Programme; MANN+HUMMEL, Kaiserslautern, Germany.
Amounts: Not specified.
Description: Industrial automation and design of the optimal assembly scenario for heavy-vehicle air filters.

2009

Funding programme: Not specified.
Value-Go
Status: Completed. **Period:** 2009.
Role: Participant, Penelope S.r.l..
Amounts: Not specified.
Description: Study and implementation of an agent-based system for food traceability in the dairy supply chain.

Research agreements, consultancy and professional activities

2024

Funding programme: ICAROS–Soft Technology S.r.l. agreement.
IANUS – Artificial Intelligence for anomaly recognition in information system security
Status: Completed. **Period:** Start 24/09/2024.
Role: Scientific Lead of the ICAROS–Soft Technology S.r.l. consultancy agreement, R&D proposal F/350089/01-04/X60.
Amounts: agreement value €180,000.
Description: Assessment of computing requirements for inference, Continuous Training and Continuous Integration; optimisation of distribution, scalability and hardware reliability; hardware/software mapping, acceleration libraries and memory management.

31/05/2024; 2025

Occasional collaboration with Kebula S.r.l., Pellezzano, tax/VAT no. 09577271217. Contract dated 31 May 2024; declared gross compensation €20,000, receipt 1/2025 dated 28 March 2025.

01/03–21/05/2021

DIETI Scientific Lead for the operational agreement with DOMO S.r.l. (contact Donato Montibello), assessing research under the OECD Frascati Manual 2015 and supporting R&D tax-credit eligibility. Companies: Etra Costruzioni, Fiorini, Svid, Verrazzo and Panacea – Affari e Servizi. DIETI agreement value €12,000.

01/12/2020–26/02/2021

DIETI Scientific Lead for the operational agreement with DOMO S.r.l. (contact Donato Montibello), assessing research under the OECD Frascati Manual 2015 and supporting tax-credit eligibility for R&D investment. Companies: King Catering, Meridiana Servizi, Dejavù Factory and Arcipelago. DIETI agreement value €9,000.

2021

DIETI Scientific Lead for the framework agreement with DOMO S.r.l. (contact Donato Montibello), supporting company digitalisation through AI, augmented and virtual reality and Industry 4.0 research and development.

2020

DIETI Scientific Lead for the framework agreement with University of Cagliari DMI; counterpart Scientific Lead Prof. Salvatore Mario Carta.

2020

Scientific study and research responsibility, KING project, commissioned by PANACEA – AFFARI E SERVIZI S.r.l., Viale Camillo Benso di Cavour 134/B, Siena, tax/VAT no. 01190840528, represented by Dr Antonella Montibello. Design of a VR/AR application augmenting dishes with product traceability and energy-content information.

2020

Scientific study and research responsibility, SVID project, commissioned by PANACEA – AFFARI E SERVIZI S.r.l., Viale Camillo Benso di Cavour 134/B, Siena, tax/VAT no. 01190840528, represented by Dr Antonella Montibello. Design of a VR system for training workers to paint at height and adapt to elevated work environments, supporting occupational safety.

01/10/2011–01/04/2012

R&D consultancy, HQuadro S.r.l., Bosco di San Francesco project: Android software for A-TAG3 localisation.

01/01–31/12/2011

Project-based contract, AllInit S.r.l., Fisciano (SA): dairy supply-chain traceability platform.

01/02–01/09/2009

R&D consultancy, Penelope S.r.l.: agent-based dairy supply-chain traceability system.

01/01–01/09/2009

Project-based contract, BATTISTONI RESEARCH, Fisciano (SA): design and development of a wine supply-chain traceability platform.

Technology transfer, startups and academic spin-offs

05/2024–present

KICKTECK S.r.l., VAT no. 10551691214, Corso Vittorio Emanuele 656, 80121 Naples: founding shareholder and PRESSING scientific lead. Incorporated on 06/05/2024 and registered with the Companies Register, special section for innovative startups, on 22/05/2024; REA NA–1114522. Ownership interest: **10%**, nominal value €1,000 out of €10,000 share capital (company data as of 15/10/2024). Established to implement PRESSING, a project awarded a €287,700 grant against €411,000 total cost and completed in October 2025 with the development of the conversational match-analysis product. AI, tracking and football expertise for match analysis: conversational data queries, customised KPIs and decision support for clubs and analysts. Scientific and technical work in pattern recognition, image and signal analysis, systems integration and prototype devices.

19/12/2022–present

The Cloud Alchemist S.r.l., University of Cagliari spin-off, VAT no. 04045990928: founding shareholder; founding activities started in January 2022. Research, development, experimentation and commercialisation of infrastructure and algorithms for AI/Big Data automation and semi-automation of cloud software development. Historical company figures: 5 permanent employees plus collaborators; paid contracts worth €64,716 from Dune, Human Interpretation and Abinsula; €75,000 regional Voucher STARTUP grant awarded in June 2024. https://www.thecloudalchemist.com

2021–2023

VisioScientiae, University of Cagliari spin-off: shareholder. Areas include AI, computer vision, classification, sentiment analysis, Big Data, semantic web, data mining and trading systems; team led by Salvatore Mario Carta, combining ICT research with experience in establishing and developing businesses nationally and internationally.

Editorial appointments

01/11/2026–present

Managing Editor. **Image and Vision Computing (IMAVIS)**. Elsevier, ISSN 0262-8856. Appointment effective 1 November 2026.

22/04/2023–31/10/2026

Associate Editor. **Image and Vision Computing (IMAVIS)**. Elsevier, ISSN 0262-8856.

04/05/2023–present

Associate Editor. **Pattern Recognition Letters (PRL)**. Elsevier, ISSN 0167-8655.

2022–present

Editorial Review Board. **International Journal of Blockchain Applications and Secure Computing (IJBASC)**. IGI Global, ISSN 2771-5817.

2020–present

Topic Editor. **Electronics**. MDPI, ISSN 2079-9292. Topical Advisory Panel (Computer Science & Engineering section).

2025

Guest Editor. **Image and Vision Computing**. Elsevier, ISSN 0262-8856: “Smart Medicine: The Integration of Artificial Intelligence into Healthcare”, with Fabiola De Marco (University of Salerno) and Huiru (Jane) Zheng (Ulster University, Belfast).

2024

Guest Editor. **Sensors**. MDPI, ISSN 1424-8220: “Artificial Intelligence Methods for Smart Cities — 2nd Edition”, with Salvatore Mario Carta and Alessandro Sebastian Podda.

2021

Guest Editor. **Sensors**. MDPI, ISSN 1424-8220: “Artificial Intelligence Methods for Smart Cities”, with Salvatore Mario Carta and Alessandro Sebastian Podda.

2020

Guest Editor. **Smart Cities**. MDPI, ISSN 2624-6511: “Cloud-based Biometrics for Smart Cities”, with Salvatore Mario Carta and Alessandro Sebastian Podda.

2020

Guest Editor. **Pattern Recognition Letters**. Elsevier, ISSN 0167-8655: Virtual Special Issue “Biometrics in Smart Cities: Techniques and Applications (BI_SCI)”, with Michele Nappi, Fabio Narducci, Aniello Castiglione and Vijayakumar Pandi.

2017

Guest Editor. **IEEE Cloud Computing**. IEEE, ISSN 2325-6095: “Biometrics-as-a-Service”, with Kim-Kwang Raymond Choo, Fabio Narducci, Arcangelo Castiglione, Michele Nappi and Rajiv Ranjan.

Scientific peer review

2026

ACM Transactions on Autonomous and Adaptive Systems – ACM. ISSN: 1556-4703.

2026

Communications in Statistics – Theory and Methods – Taylor & Francis. ISSN: 0361-0926, 1532-415X.

2026

Computers – MDPI. ISSN: 2073-431X.

2026

Discover Applied Sciences – Springer Nature. ISSN: 3004-9261.

2026

IEEE Internet of Things Journal – IEEE. ISSN: 2327-4662.

2026

IEEE Transactions on Human-Machine Systems – IEEE. ISSN: 2168-2291, 2168-2305.

2026

IEEE Transactions on Image Processing – IEEE. ISSN: 1057-7149, 1941-0042.

2026

IEEE Transactions on Network and Service Management – IEEE. ISSN: 1932-4537.

2026

IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI) – IEEE. ISSN: 0162-8828, 1939-3539.

2026

Information Security Journal: A Global Perspective – Taylor & Francis. ISSN: 1939-3555, 1939-3547.

2026

International Journal of Energy and Environmental Engineering – Islamic Azad University / OICC Press. ISSN: 2008-9163, 2251-6832.

2026

International Journal of Human-Computer Interaction – Taylor & Francis. ISSN: 1044-7318, 1532-7590.

2026

International Journal of Signal and Imaging Systems Engineering – Inderscience. ISSN: 1748-0698, 1748-0701.

2026

Journal of Applied Science and Engineering – Tamkang University Press. ISSN: 2708-9967, 2708-9975.

2026

Scientific Reports – Springer Nature (Nature Portfolio). ISSN: 2045-2322.

2023

IEEE Open Journal of Signal Processing – IEEE. ISSN: 2644-1322.

2023

IEEE Transactions on Neural Networks and Learning Systems – IEEE. ISSN: 2162-237X, 2162-2388.

2022

IEEE Transactions on Biometrics, Behavior, and Identity Science – IEEE. ISSN: 2637-6407.

2022

IEEE Transactions on Consumer Electronics – IEEE. ISSN: 1558-4127, 0098-3063.

2020

IEEE Transactions on Engineering Management – IEEE. ISSN: 0018-9391, 1558-0040.

2020

Journal of Ambient Intelligence and Humanized Computing – Springer. ISSN: 1868-5145, 1868-5137.

2018

Applied Sciences – MDPI. ISSN: 2076-3417.

2018

Sensors – MDPI. ISSN: 1424-8220.

2017

Healthcare Technology Letters – Wiley / IET. ISSN: 2053-3713.

2017

IEEE Communications Magazine – IEEE. ISSN: 0163-6804, 1558-1896.

2017

IET Image Processing – Wiley / IET. ISSN: 1751-9659, 1751-9667.

2016

Computer Methods and Programs in Biomedicine – Elsevier. ISSN: 0169-2607.

2016

IEEE Access – IEEE. ISSN: 2169-3536.

2016

Image and Vision Computing – Elsevier. ISSN: 0262-8856.

2016

Information Fusion – Elsevier. ISSN: 1566-2535.

2015

Multimedia Tools and Applications – Springer. ISSN: 1380-7501.

2013

Pattern Recognition Letters – Elsevier. ISSN: 0167-8655.

Doctoral boards, quality assurance and examination committees

2026/27 – 42nd cycle

PhD Board Member, Information Technology and Electrical Engineering (ITEE), University of Naples Federico II, programme code DOT1318930, non-consortium programme. Membership acceptance completed on 29 May 2026.

2025/26 – 41st cycle

PhD Board Member, ITEE, University of Naples Federico II, programme code DOT1318930; cycle duration: three years. Membership acceptance completed on 22 May 2025.

2024/25 – 40th cycle

PhD Board Member, ITEE, University of Naples Federico II, programme code DOT1318930; cycle duration: three years. Membership acceptance completed on 28 May 2024.

12/2025–present

Member of the Quality Management Unit (UGQ), ITEE PhD programme, University of Naples Federico II. Participation in programme quality assurance and self-assessment, preparation of documentation for the University Evaluation Board and institutional hearings. Contribution to preparing the programme self-assessment report and the Evaluation Board hearing of 3 March 2026.

31/01/2026

Doctoral examination committee member, Department of Computer Science, University of Salerno. Candidates: Ilaria Amaro, Attilio Della Greca, Gianpaolo Iuliano.

2025/2026

External reviewer of Attilio Della Greca’s PhD thesis, Computer Science PhD, 38th cycle, Department of Computer Science, University of Salerno. Thesis title: Human-Centric Interaction in Immersive and Generative Systems: Investigating Trust, Empathy, and Integration in Mental Health Contexts.

06/10/2026

Member of Ivan Capobianco’s Comité de Suivi Individuel (CSI), Computer Science PhD, École doctorale SPI, under a cotutelle arrangement between the University of Salerno and Université Clermont Auvergne. Thesis: Multi-Robot Systems and Multi-Agent Systems in Agriculture. First-year assessment (CSI 1) for admission to the second year. Report signed on 7 October 2026.

30/10/2026

Chair and organiser of Session 3, 41st cycle of the ITEE PhD programme, University of Naples Federico II: presentation and assessment session for admission to the following year.

20/06–18/07/2024

Full member and secretary of the admissions committee for the 40th ITEE PhD cycle, DIETI, University of Naples Federico II. Meeting held on 11 July 2024; proceedings started on 1 July and results were published on 18 July 2024.

16/03–22/04/2022

Secretary of the final examination committee, Mathematics and Computer Science PhD, 34th cycle, University of Cagliari. Candidates: Lodovica Marchesi, Luca Pitzalis and Maria-Mădălina Stanciu; Rector’s Decree 283 of 16 March 2022.

13/01–25/02/2022

Secretary of the final examination committee, Mathematics and Computer Science PhD, 34th cycle, University of Cagliari. Candidates: Andrea Corriga, Francesca Maridina Malloci, Federica Pes and Nicola Uras; Rector’s Decree 38 of 13 January 2022.

2019/20 – 35th cycle

PhD Board Member, Mathematics and Computer Science, University of Cagliari, programme code DOT1304453; cycle duration: three years. Membership acceptance completed on 22 March 2019. Participation: 22 March 2019–5 March 2020.

Research Quality Assessment – VQR 2020–2024

Results for four research outputs by Silvio Barra submitted by the University of Naples Federico II and assessed by GEV 1: three in class A (Eccezionale, Exceptional) and one in class B (Eccellente, Excellent).

2022

An End-to-End Curriculum Learning Approach for Autonomous Driving Scenarios. IEEE Transactions on Intelligent Transportation Systems. **Class A (Exceptional), 29.5/30**. Originality: 9.5; methodology: 10; impact: 10.

2021

Visual question answering: Which investigated applications?. Pattern Recognition Letters. **Class A (Exceptional), 28.5/30**. Originality: 9; methodology: 9.5; impact: 10.

2020

Deep learning and time series-to-image encoding for financial forecasting. IEEE/CAA Journal of Automatica Sinica. **Class A (Exceptional), 30/30**. Originality: 10; methodology: 10; impact: 10.

2020

Web-Shaped Model for Head Pose Estimation: An Approach for Best Exemplar Selection. IEEE Transactions on Image Processing. **Class B (Excellent), 28/30**. Originality: 8; methodology: 10; impact: 10.

University teaching

from 2021/22 to 2025/26

Databases (Basi di Dati), BSc in Computer Science, DIETI, University of Naples Federico II, INF/01, 9 ECTS; course lecturer. AY 2021/22: 72 teaching hours.

from 2020/21 to 2021/22; from 2025/26 to 2026/27

Operating Systems for Mobile, Cloud and IoT – Operating Systems 2, MSc in Computer Science, DIETI, University of Naples Federico II, INF/01, 6 ECTS; course lecturer.

from 2022/23 to 2026/27

Security and Privacy, MSc in Criminological and Investigative Sciences and Countering Cybercrime, Department of Political Science, University of Naples Federico II, INF/01, 6 ECTS.

from 2023/24 to 2024/25

Operating Systems for Mobile, Cloud and IoT – Operating Systems 2, IoT & Cloud module, MSc in Computer Science, DIETI, University of Naples Federico II, INF/01, 3 ECTS; course shared with a colleague.

2020/21

Database Laboratory, BSc in Computer Science, DIETI, University of Naples Federico II, INF/01, 3 ECTS. Seminar teaching: 24 hours; examination committee member. Course coordinator: Adriano Peron.

from 2019/20 to 2021/22

Fundamentals of Computer Science and Cybersecurity, BSc in Defence and Security Sciences (L/DS), Link Campus University, INF/01, 6 ECTS. Delivered remotely in AY 2019/20 during the COVID-19 emergency; 36 hours in each AY 2020/21 and 2021/22.

from 2016/17 to 2019/20

Operating Systems Laboratory, BSc in Computer Science, DMI, University of Cagliari, INF/01, 6 ECTS; 48 hours for each of the editions from 2016/17 to 2018/19.

from 2017/18 to 2018/19

Advanced Image Processing Techniques, MSc in Computer Science, DMI, University of Cagliari, INF/01, 6 ECTS; 48 hours for the 2017/18 edition.

2016/17

Information and Knowledge Management in Complex Applications, MSc in Applied Computer Science, Department of Science and Technology, University of Naples Parthenope, INF/01, 6 ECTS; adjunct lecturer, 1 November 2016–31 October 2017. Teaching: 48 hours.

2015/16

Advanced Network Architecture and Programming with Laboratory, MSc in Applied Computer Science, Department of Science and Technology, University of Naples Parthenope, INF/01, 6 ECTS; adjunct lecturer, 1 November 2015–31 October 2016. Teaching: 48 hours.

from 2012/13 to 2013/14

Biometrics and Security, BSc in Computer Science, DMI, University of Cagliari, INF/01, 6 ECTS. Teaching assistant and examination committee member for Prof. Andrea Casanova’s course.

from 2012/13 to 2013/14

Software Engineering, BSc in Computer Science, DMI, University of Cagliari, INF/01, 6 ECTS. Teaching assistant and examination committee member for Prof. Andrea Casanova’s course.

Professional teaching and ITS/IFTS contracts

2024

PERSEO S.p.A. Impresa sociale, Via Antonio Amato 20/22, 84131 Salerno: 60-hour teaching appointment for “Hardware/software architectures for the Internet of Things”, within the IFTS programme for sustainable IoT solutions for electronics; CUP B54D23002970009.

2019–2025

Fondazione ITS “Antonio Bruno”, Via Castello 24, Grottaminarda (AV), tax code 90021020640. Contract lecturer in automation, mechatronic systems and Industry 4.0 maintenance programmes: 22 teaching appointments/modules, 525 hours in total. MINERVA: Campania ESF ROP 2014–2020, Axis III, SO 15, Action 10.6.1, office code 9, CUP B64F17005150006, decree 1058 of 4 December 2017. MINERVA/SA: same Axis/SO/Action, office code 1/SA, CUP B59J21026030006, SURF 21038AP000000001, decree 671 of 30 November 2021. TÉCHNE: Axis III, SO 12, Action 10.1.6, office code 9, 2020–2023, CUP B69J20002540009, decree 441 of 3 September 2021.

24/01–07/03/2025

UF2.1 – ICT Fundamentals. Lecturer, 30 hours. Teaching year 2024/25. Higher Technician in Integrated Automation for Industry 4.0, 2024–2026. Location: Salerno, IIS “Galilei-Di Palo”. PNRR, Mission 4, Component 1, Investment 1.5; CUP G64D23004940006; D.M. 96 of 26 May 2023. Appointment dated 23/01/2025; contract 27/25, prot. 3781.

07/06–14/07/2023

UF13.1 – Computer Science Principles for Industrial Applications. Lecturer, 40 hours. Teaching year 2022/23. Higher Technician in Integrated Automation for Industry 4.0, 2022–2024. Location: Grottaminarda (AV). D.D. MI 1284 of 2 August 2021 and D.D. 52 of 5 November 2021. Appointment dated 05/06/2023; contract 38/23, prot. 1692.

17/03–05/04/2023

UF13.2 – Software Life Cycle. Lecturer, 15 hours. Teaching year 2022/23. Higher Technician in Automation and Mechatronic Systems, 2022–2023. Location: Salerno. MINERVA/SA. Appointment dated 15/03/2023; contract 23/23, prot. 1634.

06/03–17/03/2023

UF13.1 – Computer Science Principles for Industrial Applications. Lecturer, 10 hours. Teaching year 2022/23. Higher Technician in Automation and Mechatronic Systems, 2022–2023. Location: Salerno. MINERVA/SA. Appointment dated 02/03/2023; contract 19/23, prot. 1628.

14/02–03/03/2023

UF13.5 – Testing Processes and Tools. Lecturer, 15 hours. Teaching year 2022/23. Higher Technician in Automation and Mechatronic Systems, 2022–2023. Location: Salerno. MINERVA/SA. Appointment dated 13/02/2023; contract 15/23, prot. 1617.

09/01–14/02/2023

UF13.4 – Software Design Principles. Lecturer, 35 hours. Teaching year 2022/23. Higher Technician in Automation and Mechatronic Systems, 2022–2023. Location: Salerno. MINERVA/SA. Appointment dated 04/01/2023; contract 01/23, prot. 1580.

06/09–24/10/2022

UF13.6 – Programming Languages. Lecturer, 40 hours. Teaching year 2022/23. Higher Technician in Automation and Mechatronic Systems, 2022–2023. Location: Salerno. MINERVA/SA. Appointment dated 06/09/2022; contract 75/22, prot. 1395.

04/03–18/05/2022

UF2.1 – ICT Fundamentals. Lecturer, 40 hours. Teaching year 2021/22. Higher Technician in Automation and Mechatronic Systems, 2022–2023. Location: Salerno. MINERVA/SA. Appointment dated 28/02/2022; contract 35/22, prot. 1269.

03/03–31/03/2022

UF2.3 – Networks and Enabling Technologies. Lecturer, 20 hours. Teaching year 2021/22. Higher Technician in Integrated Automation for Industry 4.0, 2021–2023. Location: Grottaminarda (AV). TÉCHNE; monitoring code 21018AP000000010. Appointment dated 28/02/2022; contract 33/22, prot. 1267.

12/01–16/02/2022

UF2.1 – ICT Fundamentals. Lecturer, 30 hours. Teaching year 2021/22. Higher Technician in Integrated Automation for Industry 4.0, 2021–2023. Location: Grottaminarda (AV). TÉCHNE; monitoring code 21018AP000000010. Appointment dated 05/01/2022; contract 02/22, prot. 1084.

03/11–06/12/2021

UF13.1 – Computer Science Principles for Industrial Applications. Lecturer, 30 hours. Teaching year 2021/22. Higher Technician in Maintenance Using Industry 4.0 Technologies, 2020–2023. Location: Grottaminarda (AV). TÉCHNE; monitoring code 21018AP000000009. Appointment dated 27/10/2021; contract 59/21, prot. 957.

29/04–01/06/2021

UF2.1 – ICT Fundamentals. Lecturer, 30 hours. Teaching year 2020/21. Higher Technician in Maintenance Using Industry 4.0 Technologies, 2020–2023. Location: Grottaminarda (AV). DGR 409 of 30 July 2020, D.D. MIUR 863 of 23 July 2020, D.D. 39 of 30 October 2020; budget chapter 5465, MIUR allocation €75,281.90. Appointment dated 27/04/2021; contract 23/21, prot. 763.

24/06–26/06/2020

UF13.2 – Software Life Cycle. Lecturer, 5 hours. Teaching year 2019/20. Higher Technician in Maintenance Using Industry 4.0 Technologies, 2019–2021. Location: Grottaminarda (AV). MINERVA; monitoring code 17067AP000000005. Appointment dated 03/06/2020; contract 26/20, prot. 327.

15/06–29/06/2020

UF13.3 – Programming Languages. Lecturer, 25 hours. Teaching year 2019/20. Higher Technician in Maintenance Using Industry 4.0 Technologies, 2019–2021. Location: Grottaminarda (AV). MINERVA; monitoring code 17067AP000000005. Appointment dated 03/06/2020; contract 24/20, prot. 325.

11/06–13/06/2020

UF13.2 – Software Life Cycle. Lecturer, 5 hours. Teaching year 2019/20. Higher Technician in Integrated Automation for Industry 4.0, 2019–2021. Location: Grottaminarda (AV). MINERVA; monitoring code 17067AP000000006. Appointment dated 03/06/2020; contract 21/20, prot. 322.

25/05–13/06/2020

UF13.3 – Programming Languages. Lecturer, 25 hours. Teaching year 2019/20. Higher Technician in Integrated Automation for Industry 4.0, 2019–2021. Location: Grottaminarda (AV). MINERVA; monitoring code 17067AP000000006. Appointment dated 18/05/2020; contract 18/20, prot. 315.

13/12/2019–30/01/2020

UF2.1 – ICT Fundamentals. Lecturer, 40 hours. Teaching year 2019/20. Higher Technician in Maintenance Using Industry 4.0 Technologies, 2019–2021. Location: Grottaminarda (AV). MINERVA; monitoring code 17067AP000000005. Appointment dated 05/12/2019; contract 39/19, prot. 198.

03/07–25/07/2019

UF13.5 – Testing Processes and Tools. Lecturer, 15 hours. Teaching year 2018/19. Higher Technician in Automation and Mechatronic Systems with Industry 4.0 Implementation, 2018–2020. Location: Grottaminarda (AV), IISS Grottaminarda. MINERVA; monitoring code 17067AP000000004. Appointment ref. 403/2019.

17/06–17/07/2019

UF13.4 – Software Design Principles. Lecturer, 35 hours. Teaching year 2018/19. Higher Technician in Automation and Mechatronic Systems with Industry 4.0 Implementation, 2018–2020. Location: Grottaminarda (AV), IISS Grottaminarda. MINERVA; monitoring code 17067AP000000004. Appointment ref. 402/2019.

10/06–21/06/2019

UF13.3 – Software Management Procedures and Processes. Lecturer, 15 hours. Teaching year 2018/19. Higher Technician in Automation and Mechatronic Systems with Industry 4.0 Implementation, 2018–2020. Location: Grottaminarda (AV), IISS Grottaminarda. MINERVA; monitoring code 17067AP000000004. Appointment ref. 368/2019.

04/06–13/06/2019

UF13.2 – Software Life Cycle. Lecturer, 15 hours. Teaching year 2018/19. Higher Technician in Automation and Mechatronic Systems with Industry 4.0 Implementation, 2018–2020. Location: Grottaminarda (AV), IISS Grottaminarda. MINERVA; monitoring code 17067AP000000004. Appointment ref. 367/2019.

03/06–06/06/2019

UF13.1 – Computer Science Principles for Industrial Applications. Lecturer, 10 hours. Teaching year 2018/19. Higher Technician in Automation and Mechatronic Systems with Industry 4.0 Implementation, 2018–2020. Location: Grottaminarda (AV), IISS Grottaminarda. MINERVA; monitoring code 17067AP000000004. Appointment ref. 366/2019.

Seminars, outreach and educational engagement

09/02/2026

Speaker: “Il Pensiero Computazionale come Strumento Didattico Trasversale” (Computational Thinking as a Cross-Curricular Teaching Tool), within “Pensare come un informatico: Sfide di logica, AI, giochi e codici segreti”, Computer Science National Scientific Degrees Programme (PLS), University of Naples Federico II, AY 2025/26. Online seminar, 16:00–18:00 (2 hours), for lower- and upper-secondary-school teachers. Computational thinking and cross-curricular problem-solving through active learning: problem decomposition, abstraction and pattern recognition to integrate computational reasoning into subject teaching.

03/04/2025

Speaker: “IoT: introduzione ad applicazioni ed agenti” (IoT: introduction to applications and agents), “OrientiAMO il Futuro” seminar series, fourth edition, AY 2024/25. Online, 10:00–12:00 (2 hours), for tutor teachers and upper-secondary-school students in Campania. Organised by the Campania Educational Training Team and the Regional School Office for Campania, in collaboration with the University of Naples Federico II National Scientific Degrees Programme (PLS), within the ORIENTA_life project.

04/2013

Three “Biometric Systems and Homeland Security” seminars for the “Image Processing, Biometric Systems and Homeland Security” postgraduate programme, Sardegna Ricerche, Prof. Andrea Casanova’s course. Total duration: 6 hours.

Research groups and collaborations

2021–

VisioScientiae, University of Cagliari: scientific supervision and consultancy.

2013–

BIPLab – Biometric and Image Processing Laboratory, Prof. Michele Nappi, University of Salerno: biometric segmentation/recognition, image/video processing; supervision, co-supervision and coordination of BSc/MSc and PhD students.

2014–2017

SOCIALab – Soft Computing and Image Analysis Lab, Prof. Hugo Proença, Universidade da Beira Interior, Covilhã, Portugal: biometric recognition and video analysis/analytics for surveillance.

2017–

Collaboration with Prof. Kim-Kwang Raymond Choo, University of Texas at San Antonio, on cloud technologies and Biometrics-as-a-Service, resulting in publications and an IEEE Cloud Computing guest editorial assignment.

2018–2020

VRLab – Virtual Reality Laboratory, Prof. Andrea Francesco Abate, University of Salerno: virtual/augmented reality and object/scene reconstruction for cultural heritage.

2018–

Collaboration with Prof. Modesto Castrillón-Santana and Dr David Freire-Obregón, Universidad de Las Palmas de Gran Canaria, on mobile camera sensor identification through deep learning and sensor-noise analysis.

2018/2019–

HCI-UsE – Human-Computer Interaction and Software Usability Laboratory, Prof. Giuliana Vitiello, University of Salerno: usability evaluation, mobile health, multimodal interaction, geovisualisation and GIS. Related publication: “Automating Mockup-Based Usability Testing on the Mobile Device”, GPC 2019.

01/05/2020–

PRISCA Lab – Projects of Intelligent Robotics and Advanced Cognitive Systems, Prof. Silvia Rossi, DIETI, University of Naples Federico II: image processing, human-robot interaction and signal processing.

since 2020

Member of ICAROS – Interdepartmental Center for Advances in Robotic Surgery, University of Naples Federico II.

International mobility and visiting appointments

16/04–15/10/2022

Visiting Researcher, SIANI Institute, Universidad de Las Palmas de Gran Canaria, Spain: computer vision and biometric recognition in uncontrolled settings.

30/05–04/06/2018

Erasmus+ Staff Mobility for Teaching, Universidad de Las Palmas de Gran Canaria, Spain; collaboration with Prof. Modesto Castrillón-Santana. Eight seminar hours on face, iris and ear biometrics, context awareness, wearable and environmental sensors.

01/03/2014–28/02/2015

Visiting Researcher, SOCIALab, Universidade da Beira Interior, Covilhã, Portugal; Prof. Hugo Proença. Single-View Metrology for outdoor multicamera calibration, object dimensions and rotation/translation matrices; Self-Organizing Maps for head-pose estimation from 3D morphology.

14/02–06/03/2010

Erasmus Intensive Program SAVRO, MANN+HUMMEL, Kaiserslautern, Germany, industrial production automation.

Awards and recognition

31/07/2019

Third prize, DAFNE – Digital Anastylosis of Frescoes challeNgE, CVMLab, University of Pavia, for digital fresco reconstruction. €2,000 award sponsored by Rotary, CVPL and AICA; presented on 11 September 2019 in Trento at ICIAP 2019.

2016

Best Student Paper Award, presented during WILF 2016 (Naples, 19–21 December 2016), for “Two-Tier Image Features Clustering for Iris Recognition on Mobile”, Andrea F. Abate, Silvio Barra, Francesco D’Aniello, Fabio Narducci; DOI 10.1007/978-3-319-52962-2_23.

Conference organisation, committees and presentations

2027

TPC. **ICPRAM 2027**. https://icpram.scitevents.org

05–09/10/2026

Local Chair. **ICMI 2026**: 28th ACM International Conference on Multimodal Interaction, Naples, Italy. https://icmi.acm.org/2026/people/

2026

TPC. **ICPRAM 2026**. https://icpram.scitevents.org/Home.aspx

2026

TPC. **CSS 2026**. https://nsclab.org/css2026/index.html

2026

TPC. **ADIoT 2026**. https://adiot.sptagelab.org/2026/

2026

Board Member. **AI-HCI 2026**: 7th INTERNATIONAL CONFERENCE ON ARTIFICIAL INTELLIGENCE IN HCI (HCI International 2026), Montreal, CANADA | 26-31 July 2026

2025

Program Chair. **Champions 2025**: 1st Workshop on Conversational AI-Methodologies for Performance in Sport, held in conjunction with CHITALY 2025, 16th Biannual Conference of the Italian SIGCHI Chapter “Technologies and Methodologies of Human-Computer Interaction in the Third Millenium“, Salerno, Italy 6 – 10 OCTOBER 2025

2025

Doctoral Consortium Chair. **CHITALY 2025**: 16th Biannual Conference of the Italian SIGCHI Chapter “Technologies and Methodologies of Human-Computer Interaction in the Third Millenium“, Salerno, Italy 6 – 10 OCTOBER 2025

2025

Program Chair. **BioFor 2025**: 4th International Workshop on Recent Advances in Digital Security: Biometrics and Forensics held In conjunction with ICIAP 2025, the 23rd International Conference on Image Analysis and Processing, Rome, ITALY | 15-19 Sep 2025

2025

Board Member. **AI-HCI 2025**: 6th INTERNATIONAL CONFERENCE ON ARTIFICIAL INTELLIGENCE IN HCI (HCI International 2025), Gothenburg, SWEDEN | 22-27 June 2025

2024

Board Member. **AI-HCI 2024**: 5th INTERNATIONAL CONFERENCE ON ARTIFICIAL INTELLIGENCE IN HCI (HCI International 2024), Washington DC, USA | 29 June -4 July 2024

2023

Program Chair. **Biofor 2023**: 3rd International Workshop on Recent Advances in Digital Security: Biometrics and Forensics held In conjunction with ICIAP 2023, the 22nd International Conference on Image Analysis and Processing, Udine, ITALY | 11-15 Sep 2023

2023

TPC. **DSPP 2023**: The 1st International Conference on Data Security and Privacy Protection, Xi'an, China | 16-18 Oct 2023

2023

TPC. **ICA3PP 2023**: The 23rd International Conference on Algorithms and Architectures for Parallel Processing (ICA3PP 2023) Tianjin, China | 20-22 October 2023

2022

Program Chair. **AISC2022**: Second International Workshop on Artificial Intelligence methods for Smart Cities, co-located with EUSPN2022 (The 13th International Conference on Emerging Ubiquitous Systems and Pervasive Networks), Leuven (BELGIUM), October 26-28, 2022

2022

TPC. **CPSCom 2022**: The 15th IEEE International Conference on Cyber Physical and Social Computing (CPSCom-2022) - August 22-25, 2022 - Espoo, Finland

2022

TPC. **NSS 2022**: 16th International Conference on Network and System Security (NSS 2022) - Denarau Island, Fiji - Dec 9 - Dec 12, 2022

2022

TPC. **LOD 2022**: The 8th International Online & Onsite Conference on Machine Learning, Optimization, and Data Science – September 18 – 22, 2022 – Certosa di Pontignano, Siena – Tuscany, Italy

2022

TPC. **ICA3PP 2022**: The 22nd International Conference on Algorithms and Architectures for Parallel Processing, Copenhagen Denmark, 10-12 October 2022

2022

TPC. **ADIoT2022**: The 5th International Workshop on Attacks and Defenses for Internet-of-Things (ADIoT 2022)held in conjunction with ESORICS 2022, Copenhagen Denmark, 29-30 September 2022

2022

TPC. **CSS2022**: The 14th International Symposium on Cyberspace Safety and Security Xi'an, China, 16-18 October 2022

2022

Poster & Demo Chair. **AVI22**: International Conference on Advanced Visual Interfaces 2022, Frascati(RM), ITALY, June 6-10, 2022

2022

Local Arrang. Co-Chair. **RO-MAN 2022**: 31st IEEE International Conference on Robot & Human Interactive Communication, Naples, August 29-September 2, 2022

2021

Program Chair. **AISC2021**: First International Workshop on Artificial Intelligence methods for Smart Cities, Online, November 4, 2021, co-located with EUSPN2021 (The 12th International Conference on Emerging Ubiquitous Systems and Pervasive Networks), Leuven (BELGIUM), November 1-4, 2021

2021

Program Chair. **R-PRMI 2021**: First International Workshop on Responsible Pattern Recognition and Machine Intelligence, Online, October 17, 2021, co-located with ICCV2021 (International Conference on Computer Vision 2021), Montreal, October 11-17, 2021

01–04/11/2021

TPC. **EUSPN 2021**: 12th International Conference on Emerging Ubiquitous Systems and Pervasive Networks, Leuven, Belgium. Track Internet of Things.
https://cs-conferences.acadiau.ca/euspn-21/program-committees.html

2020

TPC. **DASA 20**: The 2020 International Conference on Decision Aid Sciences and Applications (DASA'20), Online, November 8-9, 2020

2020

TPC. **iSCI 2020**: The 8th IEEE International Conference on Smart City and Informatization, Guangzhou, China, December 29, 2020 - January 1, 2021

2020

TPC. **DSAA 2020**: The 7th IEEE International Conference on Data Science and Advanced Analytics, 6-9 October 2020 Sidney, Australia

2020

TPC. **ML4CS 2020**: 3rd International Conference on Machine Learning for Cyber Security, 8-10 October 2020 Guangzhou, China

2020

TPC. **EUSPN 2020**: 11th International Conference on Emerging Ubiquitous Systems and Pervasive Networks, 2-5 November 2020, Madeira, Portugal

2020

TPC. **ICPRAM 2020**: 9th International Conference on Pattern Recognition Applications and Methods, 22-24 February 2020, LaValletta, Malta

2020

Poster & Demo Chair. **AVI 2020**: International Conference on Advanced Visual Interfaces, 28 September–2 October 2020, Ischia, Italy

25–27/11/2020

TPC. **NSS 2020**: 14th International Conference on Network and System Security, Melbourne, Australia.

2019

Program Chair. **IWBAAS 2019**: 2nd International Workshop on Biometrics-as-a-Service: Cloud-based Technology, Systems and Applications, co-located with DASC 2019, 5-8 August 2019, Fukuoka, Japan

2019

TPC. **iSCI 2019**: 7th International Conference on Smart City and Informatization, 12-15 November 2019, Guangzhou, China

2019

TPC. **EUSPN 2019**: The 10th International Conference on Emerging Ubiquitous Systems and Pervasive Networks (EUSPN), 4-7 November 2019, Coimbra, Portugal

2019

TPC. **CSS 2019**: 11th International Symposium on Cyberspace Safety and Security, 1-3 December 2019, Guangzhou, China

2019

TPC. **GPC 2019**: 14th International Conference on Green, Pervasive and Cloud Computing, 26-28 May 2019, Uberlandia, Brazil

2019

TPC. **ISBA 2019**: IEEE International Conference on Identity, Security and Behavior Analysis (ISBA) - 22 - 24 June 2019 - Hyderabad, INDIA

2019

Speaker. **DASC 2019**: Presentation of the paper "A Novel Blockchain Scheme Combining Prime Numbers and Iris for Encrypting Coding", submitted to and presented at DASC 2019 The 17th IEEE International Conference on Dependable, Autonomic and Secure Computing, 5-8 August 2019, Fukuoka, Japan

2019

Speaker. **GPC 2019**: Presentation of the paper "Automating Mockup-Based Usability Testing on the Mobile Device", DOI: 10.1007/978-3-030-19223-5_10, submitted to and presented at GPC2019, International Conference on Green and Pervasive Computing 2019, 26-28 May 2019, Uberlandia(MG), Brazil

2018

Speaker. **NSS 2018**: Presentation of the paper "Continuous Authentication on Smartphone by Means of Periocular and Virtual Keystroke", DOI: 10.1007/978-3-030-02744-5_16, submitted to and presented at NSS2018, International Conference on Network and System Security 2018, 27-29 August 2018, Hong Kong, China

2018

Speaker. **ICPR 2018**: Presentation of the paper "What are you doing while answering your smartphone?", doi: 10.1109/ICPR.2018.8545797, submitted to and presented at ICPR2018, International Conference on Pattern Recognition 2018, 20-24 August 2018, Beijing, China

2018

TPC. **RABTMD 2018**: Recent Advances in Biometric Technology for Mobile Devices - 22 October 2018 - Los Angeles, California, co-located with BTAS 2018, the 9th IEEE International Conference on Biometrics: Theory, Applications, and Systems

2018

TPC. **SITIS 2018**: The 14h International Conference on SIGNAL IMAGE TECHNOLOGY and INTERNET BASED SYSTEMS - 26-29 November 2018 - Las Palmas de Gran Canaria, Spain

2018

Speaker. **IWBF 2018**: Presentation of the paper "Have you permission to answer this phone?", doi: 10.1109/IWBF.2018.8401563, submitted to and presented at IWBF2018, International Workshop on Biometrics and Forensics 2018, 7-8 June 2018, Sassari, Italy

2018

TPC. **CSS 2018**: The 10th International Symposium on Cyberspace Safety and Security – October 29-31, 2018 – Amalfi – Italy

2018

TPC. **NSS 2018**: The 12th International Conference on Network and System Security, 27-29 August 2018, Honk Kong

2017

Program Chair. **IWBAAS 2017**: First International Workshop on Biometrics-as-a-Service: Cloud-based Technology, Systems and Applications, co-located with ICIAP 2017, 11-15 September 2017, Catania, ITALY

2017

Speaker. **ICIAP 2017**: Presentation of the paper "A Lightweight Mamdani Fuzzy Controller for Noise Removal on Iris Images", DOI: 10.1007/978-3-319-68548-9_9, submitted to and presented at ICIAP2017, International Conference on Image Analysis and Processing, 11-15 September 2017, Catania, Italy

2017

Speaker. **GPC 2017**: Presentation of the paper "MOHAB: Mobile Hand-Based Biometric Recognition", DOI: 10.1007/978-3-319-57186-7_9, submitted to and presented at GPC2017, International Conference on Green, Pervasive, and Cloud Computing, 11-14 May 2017, Cetara, Italy

2016

Speaker. **WILF 2016**: Presentation of the paper "Two-Tier Image Features Clustering for Iris Recognition on Mobile", DOI: 10.1007/978-3-319-52962-2_23, submitted to and presented at WILF2016, Fuzzy Logic and Soft Computing Applications, 19-21 December 2016, Naples, Italy. The paper received the Best Student Paper Award during the conference.

2015

Speaker. **ICIAP 2015**: Presentation of the paper "Quis-Campi: Extending in the Wild Biometric Recognition to Surveillance Environments", DOI: 10.1007/978-3-319-23222-5_8, submitted to and presented at ICIAP2015, the International Conference on Image Analysis and Processing, ICIAP2015, 7-11 September 2015, Genova, Italy

2015

Speaker. **ICIAP 2015**: Presentation of the paper "EEG/ECG Signal Fusion Aimed at Biometric Recognition", DOI: 10.1007/978-3-319-23222-5_5, submitted to and presented at ICIAP2015, the International Conference on Image Analysis and Processing, ICIAP2015, 7-11 September 2015, Genova, Italy

2013

Speaker. **BIOMS 2013**: Presentation of the paper "FAME: Face Authentication for Mobile Encounter", doi: 10.1109/BIOMS.2013.6656140, submitted to and presented at BIOMS2013, the IEEE Workshop on Biometric Measurements and Systems for Security and Medical Applications, BioMS 2013, 9 September 2013, Naples, Italy

Thesis supervision and co-supervision

Thesis supervision at the Universities of Naples Federico II, Salerno, Cagliari and Link Campus University. Topics: computer vision, biometrics, artificial intelligence, IoT, time-series analysis and computer forensics.

2025/26

Fausto Andrea Bellucci. BSc in Computer Science; University of Naples Federico II. Supervisor. Secure Access and Refresh Token Management in OAuth 2.0 Architectures: Implementation of Token Exchange and Backend for Frontend with Spring. Related internship at Sobereye.

2025/26

Mirko Di Carluccio. BSc in Computer Science; University of Naples Federico II. Supervisor. Dalla Cloud Transformation alla Customer Data Platform: L’evoluzione dei sistemi CRM e il ruolo strategico di Salesforce Data 360.

2025/26

Massimo Russo. BSc in Computer Science; University of Naples Federico II. Supervisor. Progettazione e sviluppo di un framework DAPS per il consenso tra modelli di segmentazione semantica.

2025/26

Vincenzo Rosario Zumbolo. BSc in Computer Science; University of Naples Federico II. Supervisor. Studio sperimentale di feature map quantum-inspired per anomaly detection su serie temporali finanziarie.

2025/26

Gennaro Iacuaniello. BSc in Computer Science; University of Naples Federico II. Supervisor. Analisi di quantum feature map per la valutazione della separabilità di classi biometriche.

2025/26

Pasquale Curci. Master’s degree in Criminological and Investigative Sciences and Countering Cybercrime; University of Naples Federico II. Supervisor. Digital Profiling & Predictive Policing.

2024/25

Giordano Neri. Master’s degree in Criminological and Investigative Sciences and Countering Cybercrime; University of Naples Federico II. Supervisor. Dark Web: per un’esplorazione dell’ecosistema criminale.

2024/25

Antonio Navarra. BSc in Computer Science; University of Naples Federico II. Supervisor. Beezzz: Sistema distribuito per il monitoraggio acustico degli alveari mediante tecnologie IoT.

2022/23

Francesco Orlando. BSc in Computer Science; University of Naples Federico II. Co-supervisor. Progettazione e implementazione di tool per encoding di serie temporali in immagini per attività di analisi di dataset.

2022/23

Francesco Emanuele Panico. BSc in Computer Science; University of Naples Federico II. Supervisor; co-supervisor: Federico Foria. Un approccio integrato per lo Sviluppo Software: combinare Design Thinking e Scrum secondo un generico Process Framework.

2022/23

Mario Turco. MSc in Computer Science; University of Naples Federico II. Supervisor; co-supervisor: Roberto Prevete. A SLIC based approach for frescoes recomposition.

2021/22

Gianluca di Maio. MSc in Computer Science; University of Naples Federico II. Supervisor. Question to Answer (Q2A): un nuovo algoritmo per la selezione delle caratteristiche in sistemi per il recupero delle immagini.

2021/22

Mariano Caccavale. BSc in Computer Science; University of Naples Federico II. Co-supervisor. Sviluppo di una pipeline di sensor fusion per un sistema di guida autonoma.

2021/22

Giuliano Aiello. BSc in Computer Science; University of Naples Federico II. Co-supervisor. Porting della piattaforma monolitica web Linkmate su una piattaforma basata su microservizi.

2021/22

Mario Gabriele Carofano. BSc in Computer Science; University of Naples Federico II. Co-supervisor. Sviluppo di un Bot Client Server con Flutter per l'automatizzazione delle ricerche.

2021/22

Pio Francesco Falzarano. BSc in Computer Science; University of Naples Federico II. Supervisor. Sviluppo di un Sistema DRT per il Trasporto pubblico/privato utilizzando Strumenti per l’IoT.

2021/22

Gianluca Mazzella. BSc in Computer Science; University of Naples Federico II. Co-supervisor. Anomalies detection: un caso di studio in ambito industriale.

2020/21

Vincenzo Saviano. BSc in Defence and Security Sciences; Link Campus University. Supervisor. IT Evolution, Privacy and Cybersecurity.

2018/19

Andrea Atzori. BSc in Computer Science; University of Cagliari. Co-supervisor. Detection, tracking and counting of vehicles for city traffic analysis.

2018/19

Gualtiero Bondanini. BSc in Computer Science; University of Cagliari. Co-supervisor. Liveness detection and face recognition.

2012/13

Davide Fais. BSc in Computer Science; University of Cagliari. Co-supervisor. Analisi dei segnali monodimensionali di Elettrocardiogrammi nell’ambito della Biometria.

2012/13

Mattia Bruno. BSc in Computer Science; University of Cagliari. Supervisor. Analisi e fusione di EEG ed ECG per il riconoscimento biometrico.

2012/13

Mauro Gaviano. BSc in Computer Science; University of Cagliari. Co-supervisor. Parametri biometrici basati su biomarcatori metabonomici.

2016/17

Fabricio Nicolas Madaio. BSc in Computer Science; University of Salerno. Co-supervisor. SMARTPHONE APPLICATION PER RICONOSCIMENTO DI ARM GESTURES E ORECCHIO.

2017/18

Giuseppe Siani. BSc in Computer Science; University of Salerno. Co-supervisor. Ground Truth Segmentation Desktop Application: Un programma in Java per semplificare le operazioni di groundtruth segmentation.

2012/13

Giuseppe Spinelli. MSc in Computer Science; University of Salerno. Co-supervisor. Un nuovo algoritmo per la behaviour analysis basato sul tracking multi-ancora.

2013/14

Marco Picariello. BSc in Computer Science; University of Salerno. Co-supervisor. PROGETTAZIONE E SVILUPPO DI UN ALGORITMO DI SPOOFING DETECTION PER I SISTEMI DI RICONOSCIMENTO DELL'IRIDE.

2013/14

Paride Giugliano. BSc in Computer Science; University of Salerno. Co-supervisor. Mutual Information Multi Anchor Tracking & Behaviour Recognition: Analysis,Development and Upgrading.

2012/13

Vincenzo Spinelli. MSc in Computer Science; University of Salerno. Co-supervisor. Progettazione e sviluppo di un algoritmo di object tracking multi-ancora basato sulla mutua informazione.

2022/23

Alessandro Marotta. BSc in Computer Science; University of Naples Federico II. Co-supervisor. Studio e sviluppo di software per la gestione dei flussi di magazzini distribuiti.

2018/19

Tullio Pizzuti. BSc in Computer Science; University of Salerno. Co-supervisor. Sistema di rilevamento e confronto biometrico di volti.

2018/19

Fabio Esposito. MSc in Computer Science; University of Salerno. Co-supervisor. DAFNE: Software for the reconstruction of fragmented images.

Academic internship supervision

12/01–31/03/2026

Ilaria Sincero, Criminological and Investigative Sciences and Countering Cybercrime: academic internship supervisor, placement at Teramo Police Headquarters. Completed.

27/11/2025–27/03/2026

Chiara Serra, Criminological and Investigative Sciences and Countering Cybercrime: academic internship supervisor, placement at Naples Prefecture – Territorial Government Office.

28/11/2025–01/04/2026

Lucia Di Domenico, Criminological and Investigative Sciences and Countering Cybercrime: academic internship supervisor, placement at Naples Prefecture – Territorial Government Office.

05/02–30/04/2026

Noemi Merra, Criminological and Investigative Sciences and Countering Cybercrime: academic internship supervisor, placement at Naples Juvenile Court.

30/03–30/05/2026

Benedetta Carangio, Criminological and Investigative Sciences and Countering Cybercrime: academic internship supervisor, placement at Naples Prefecture.

Attendance at schools, conferences and seminars

20/10/2026–22/10/2026

2026 IEEE International Conference on Metrology for eXtended Reality, Artificial Intelligence and Neural Engineering (MetroXRAINE 2026), Chemnitz, Germany. Attendee.

09/06/2022–10/06/2022

International Conference on Advanced Visual Interfaces (AVI 2022), Frascati (Roma), Italy. Attendee.

28/09/2020–02/10/2020

International Conference on Advanced Visual Interfaces (AVI 2020), Ischia Island, ITALY

05/08/2019–08/08/2019

17th IEEE International Conference on Dependable, Autonomic and Secure Computing (DASC2019), Fukuoka, JAPAN

26/05/2019–28/05/2019

14th International Conference on Green, Pervasive and Cloud Computing (GPC2019), Uberlandia (MG), BRAZIL

18/03/2019–19/03/2019

1st National CINI Congress on Artificial Intelligence, Rome, Italy.

29/10/2018–31/10/2018

10th International Conference on Cyberspace Safety and Security (CSS 2018), Amalfi, Salerno, ITALY

03/10/2018–05/10/2018

GARR Conference 2018, Cagliari, ITALY

27/08/2018–29/08/2018

12th International Conference on Network and System Security (NSS 2018), Hong Kong, CHINA

20/08/2018–24/08/2018

24th International Conference on Pattern Recognition (ICPR 2018), Beijing, CHINA

07/06/2018–08/06/2018

6th International Workshop on Biometrics and Forensics (IWBF 2018), Sassari, ITALY

27/04/2018

Copernicus Training and Information Session, Grand Hotel Salerno, Salerno, Italy.

11/09/2017–15/09/2017

19th International Conference on Image Analysis and Processing (ICIAP 2017), Catania, ITALY

19/12/2016–21/12/2016

The Eleventh International Workshop on Fuzzy Logic and Applications (WILF 2016), Naples, ITALY

02/06/2016–04/06/2016

2016 IEEE International Workshop on Biometrics and Image Forensics (BIF 2016), Palinuro (SA), ITALY

07/09/2015–11/09/2015

International Workshop on Recent Advances in Digital Security: Biometrics and Forensics (BioFor) 2015. co-located with International Conference on Image Analisys and Processing (ICIAP 2015), Genova, Italy, 07/09/2015–11/09/2015, Genova, ITALY

17/10/2014

2014 IEEE Workshop on Biometric Measurements and Systems for Security and Medical Applications (BIOMS 2014). Rome, ITALY

08/07/2013–11/07/2013

10th Edition of International Summer School on Software Engineering (ISSSE 2013), University of Salerno, Fisciano(SA), ITALY

10/06/2013–15/06/2013

BIOMETRICS 2013 – International Summer School on Biometrics for Secure Authentication, Alghero (SS), ITALYOrganisers: Massimo Tistarelli, Josef Bigun, Enrico Grosso, Anil K. Jain.

03/03/2013–09/03/2013

Bertinoro International Spring School (BISS) 2013, University Residential Center, Bertinoro (Forlì-Cesena), Italy.

22/10/2012–26/10/2012

International School "Machine Vision" (VisMac) 2012, Genova, ITALY

14/09/2012

2012 IEEE Workshop on Biometric Measurements and System for Security and Medical Applications (BIOMS 2012), Salerno, ITALY

09/05/2012

Seminar “Biometrics and Identity Management in Civil and Commercial Applications”, Dr Roberto Tavano, UNISYS, University of Salerno, Fisciano.

10/10/2011

Seminar “On the use of web design patterns in the development life cycle: from the analysis to the evaluation”, Prof. Paloma Díaz, Universidad Carlos III de Madrid, University of Salerno, Fisciano.

Scientific publications

72 bibliography entries. Editorials, extended abstracts, preprints and edited volumes are identified in their entries.

Journal papers

1. Autonomous Driving: Integration of Segmentation and Depth Camera in a Curriculum Learning Approach (2025).
Silvio Barra, Lucia Cimmino, Vincenzo Loia, Michele Nappi, Matteo Polsinelli. IEEE Internet of Things Journal · 12(17) · pp. 35237–35248 · IEEE.
DOI: 10.1109/JIOT.2025.3579862

2. Artificial Intelligence Methods for Smart Cities (2024).
Alessandro Sebastian Podda, Salvatore Carta, Silvio Barra. Sensors · 24(8) · pp. 2615.
DOI: 10.3390/s24082615 Editorial

3. Multi-scale deep learning ensemble for segmentation of endometriotic lesions (2024).
Alessandro Sebastian Podda, Riccardo Balia, Silvio Barra, Salvatore Carta, Manuela Neri, Stefano Guerriero, Leonardo Piano. Neural Computing and Applications · 36(24) · pp. 14895–14908.
DOI: 10.1007/s00521-024-09828-2

4. CIOD: an intelligent class-incremental object detection system with nearest mean of exemplars (2023).
Sheng Ren, Yan He, Xiaokang Wang, Kehua Guo, Silvio Barra, Jianqi Li. Journal of Ambient Intelligence and Humanized Computing · 14(8) · pp. 10657–10671 · Springer.
DOI: 10.1007/s12652-022-04341-7 First published online in 2022; final issue published in 2023

5. Emotion recognition by web-shaped model (2023).
Paola Barra, Luigi De Maio, Silvio Barra. Multimedia Tools and Applications · 82 · pp. 11321–11336 · Springer.
DOI: 10.1007/s11042-022-13361-6

6. FootApp: an AI-powered system for football match annotation (2023).
Silvio Barra, Salvatore M Carta, Alessandro Giuliani, Alessia Pisu, Alessandro Sebastian Podda, Daniele Riboni. Multimedia Tools and Applications · 82(4) · pp. 5547–5567 · Springer.
DOI: 10.1007/s11042-022-13359-0

7. A Facial Expression Recognition Approach for Social IoT Frameworks (2022).
Silvio Barra, Sanoar Hossain, Chiara Pero, Saiyed Umer. Big Data Research · 30 · pp. 100353 · Elsevier.
DOI: 10.1016/j.bdr.2022.100353

8. An End-to-End Curriculum Learning Approach for Autonomous Driving Scenarios (2022).
Luca Anzalone, Paola Barra, Silvio Barra, Aniello Castiglione, Michele Nappi. IEEE Transactions on Intelligent Transportation Systems · 23(10) · pp. 19817–19826 · IEEE.
DOI: 10.1109/TITS.2022.3160673

9. Fully-automated deep learning pipeline for segmentation and classification of breast ultrasound images (2022).
Alessandro Sebastian Podda, Riccardo Balia, Silvio Barra, Salvatore Carta, Gianni Fenu, Leonardo Piano. Journal of Computational Science · 63 · pp. 101816 · Elsevier.
DOI: 10.1016/j.jocs.2022.101816

10. Introduction to the special issue on “Biometrics in Smart Cities: Techniques and Applications (BI_SCI)” (2021).
Michele Nappi, Silvio Barra, Aniello Castiglione, Fabio Narducci, Pandi Vijayakumar. Pattern Recognition Letters · 148 · pp. 43–44.
DOI: 10.1016/j.patrec.2021.05.001 Editorial

11. Visual question answering: Which investigated applications? (2021).
Silvio Barra, Carmen Bisogni, Maria De Marsico, Stefano Ricciardi. Pattern Recognition Letters · 151 · pp. 325–331.
DOI: 10.1016/j.patrec.2021.09.008

12. Clustering facial attributes: Narrowing the path from soft to hard biometrics (2020).
A.F. Abate, P. Barra, S. Barra, C. Molinari, M. Nappi, F. Narducci. IEEE Access · 8 · pp. 9037–9045 · Institute of Electrical and Electronics Engineers Inc..
DOI: 10.1109/ACCESS.2019.2962010

13. Deep learning and time series-to-image encoding for financial forecasting (2020).
Silvio Barra, Salvatore Mario Carta, Andrea Corriga, Alessandro Sebastian Podda, Diego Reforgiato Recupero. IEEE/CAA Journal of Automatica Sinica · 7(3) · pp. 683–692.
DOI: 10.1109/JAS.2020.1003132

14. SAFFO: A SIFT based approach for digital anastylosis for fresco recOnstruction (2020).
P. Barra, S. Barra, M. Nappi, F. Narducci. Pattern Recognition Letters · 138 · pp. 123–129 · Elsevier B.V..
DOI: 10.1016/j.patrec.2020.07.008

15. Web-Shaped Model for Head Pose Estimation: An Approach for Best Exemplar Selection (2020).
P. Barra, S. Barra, C. Bisogni, M. De Marsico, M. Nappi. IEEE Transactions on Image Processing · 29 · pp. 5457–5468 · Institute of Electrical and Electronics Engineers Inc..
DOI: 10.1109/TIP.2020.2984373

16. A hand-based biometric system in visible light for mobile environments (2019).
Silvio Barra, Maria De Marsico, Michele Nappi, Fabio Narducci, Daniel Riccio. Information Sciences · 479 · pp. 472–485.
DOI: 10.1016/j.ins.2018.01.010

17. Achieving efficient source camera identification on Hadoop (2019).
Giuseppe Cattaneo, Umberto Ferraro Petrillo, Andrea F. Abate, Fabio Narducci, Silvio Barra. Multimedia Tools and Applications · 78(23) · pp. 32999–33021.
DOI: 10.1007/s11042-019-7561-0

18. Biometric data on the edge for secure, smart and user tailored access to cloud services (2019).
Silvio Barra, Aniello Castiglione, Fabio Narducci, Maria De Marsico, Michele Nappi. Future Generation Computer Systems · 101 · pp. 534–541.
DOI: 10.1016/j.future.2019.06.019

19. Deep learning for source camera identification on mobile devices (2019).
David Freire-Obregón, Fabio Narducci, Silvio Barra, Modesto Castrillón-Santana. Pattern Recognition Letters · 126 · pp. 86–91.
DOI: 10.1016/j.patrec.2018.01.005

20. F-FID: fast fuzzy-based iris de-noising for mobile security applications (2019).
Silvio Barra, Carmen Bisogni, Michele Nappi, Stefano Ricciardi. Multimedia Tools and Applications · 78(10) · pp. 14045–14065.
DOI: 10.1007/s11042-019-7156-9

21. ILEARNTV: Un Ecosistema di Conoscenza Condivisa e Produzione Collaborativa per Innovare la Formazione (2019).
G. Fenu, M. Marras, S. Barra, F. Giorgini, D. Zucchetti, F. Chesi. Mondo Digitale · 18(81) · Associazione Italiana per l'Informatica e il Calcolo Automatico.

22. PhysioUnicaDB: a dataset of EEG and ECG simultaneously acquired (2019).
Silvio Barra, Matteo Fraschini, Andrea Casanova, Aniello Castiglione, Gianni Fenu. Pattern Recognition Letters · 126 · pp. 119–122.
DOI: 10.1016/j.patrec.2017.12.017

23. Walking in a smart city: Investigating the gait stabilization effect for biometric recognition via wearable sensors (2019).
M. De Marsico, A. Mecca, S. Barra. Computers and Electrical Engineering · 80 · Elsevier Ltd.
DOI: 10.1016/j.compeleceng.2019.106501

24. Biometrics-as-a-Service: Cloud-Based Technology, Systems, and Applications (2018).
S. Barra, K. R. Choo, M. Nappi, A. Castiglione, F. Narducci, R. Ranjan. IEEE Cloud Computing · 5(4) · pp. 33–37.
DOI: 10.1109/MCC.2018.043221012 Editorial

25. Cloud-Based Biometrics (Biometrics as a Service) for Smart Cities, Nations, and Beyond (2018).
S. Barra, A. Castiglione, M. De Marsico, M. Nappi, K. R. Choo. IEEE Cloud Computing · 5(5) · pp. 92–100.
DOI: 10.1109/MCC.2018.053711670

26. Fusion of physiological measures for multimodal biometric systems (2017).
Silvio Barra, Andrea Casanova, Matteo Fraschini, Michele Nappi. Multimedia Tools and Applications · 76(4) · pp. 4835–4847.
DOI: 10.1007/s11042-016-3796-1

27. Kurtosis and skewness at pixel level as input for SOM networks to iris recognition on mobile devices (2017).
Andrea F. Abate, Silvio Barra, Luigi Gallo, Fabio Narducci. Pattern Recognition Letters · 91 · pp. 37–43.
DOI: 10.1016/j.patrec.2017.02.002 Mobile Iris CHallenge Evaluation (MICHE-II)

28. Biometric recognition in surveillance scenarios: a survey (2016).
Jo\ ao Neves, Fabio Narducci, Silvio Barra, Hugo Proen\cca. Artificial Intelligence Review · 46(4) · pp. 515–541.
DOI: 10.1007/s10462-016-9474-x

29. Joint Head Pose/Soft Label Estimation for Human Recognition In-The-Wild (2016).
H. Proença, J. C. Neves, S. Barra, T. Marques, J. C. Moreno. IEEE Transactions on Pattern Analysis and Machine Intelligence · 38(12) · pp. 2444–2456.
DOI: 10.1109/TPAMI.2016.2522441

30. Ubiquitous iris recognition by means of mobile devices (2015).
Silvio Barra, Andrea Casanova, Fabio Narducci, Stefano Ricciardi. Pattern Recognition Letters · 57 · pp. 66–73.
DOI: 10.1016/j.patrec.2014.10.011 Mobile Iris CHallenge Evaluation part I (MICHE I)

31. Biometrics application for newborns safe identification in neonatal intensive care units (2014).
Andrea Casanova, Silvio Barra, Maria De Marsico, Daniel Riccio, Luigi Barberini, M. Puddu, Vassilios Fanos. Journal of Pediatric and Neonatal Individualized Medicine · 3(2) · pp. 17–19.
DOI: 10.7363/030235 Extended abstract ABS 13 in Selected Abstracts of the 10th International Workshop on Neonatology; article identifier e030235; DOI of the abstract collection

32. Complex Numbers as a Compact Way to Represent Scores and Their Reliability in Recognition by Multi-Biometric Fusion (2014).
SILVIO BARRA, MARIA DE MARSICO, MICHELE NAPPI, DANIEL RICCIO. International Journal of Pattern Recognition and Artificial Intelligence · 28(07) · pp. 1460003.
DOI: 10.1142/S0218001414600039

Conference papers

1. Increasing Resolution of MRI Volumes Through Interleaved Slice Synthesis Based on Generative Adversarial Networks (2026).
Giuseppe Rauso, Mara Sangiovanni, Silvio Barra, Daniel Riccio, Mariacarla Staffa, Lorenzo D’Errico, Francesco Longobardi. International Conference on Computer Analysis of Images and Patterns · 15622 · pp. 74–85.
DOI: 10.1007/978-3-032-05060-1_7

2. CHAMPIonS: Conversational Human-AI Methodologies for Performance In Sports (2025).
Silvio Barra, Adriano Bacconi. Proceedings of the 16th Biannual Conference of the Italian SIGCHI Chapter · pp. 123:1–123:3 · Association for Computing Machinery.
DOI: 10.1145/3750069.3757884

3. Automated Classification of Test Tubes Based on Uncontrolled Image Analysis (2024).
Riccardo Balia, Silvio Barra, Alessandro Sebastian Podda, Livio Pompianu, Mara Sangiovanni, Gianni Fenu. 2024 IEEE International Conference on Metrology for eXtended Reality, Artificial Intelligence and Neural Engineering (MetroXRAINE) · pp. 1159–1164.
DOI: 10.1109/MetroXRAINE62247.2024.10796695

4. Exploring Architectural Choices and Emerging Challenges in Data Management for IoT: A Focus on Digital Innovation and Smart Cities (2024).
Silvio Barra, Ferdinando D'Alessandro, Oleksandr Sosovskyy. UMAP 2024 - Adjunct Proceedings of the 32nd ACM Conference on User Modeling, Adaptation and Personalization · pp. 429–436.
DOI: 10.1145/3631700.3665238

5. Investigating the Effectiveness of 3D Monocular Object Detection Methods for Roadside Scenarios (2024).
Silvio Barra, Mirko Marras, Sondos Mohamed, Alessandro Sebastian Podda, Roberto Saia. Proceedings of the ACM Symposium on Applied Computing · pp. 221–223.
DOI: 10.1145/3605098.3636179

6. A Practical Approach for Vehicle Speed Estimation in Smart Cities (2023).
Silvio Barra, Salvatore Carta, Antonello Meloni, Alessandro Sebastian Podda, Diego Reforgiato Recupero. Machine Learning, Optimization, and Data Science: 8th International Workshop, LOD 2022, Certosa di Pontignano, Italy, September 19–22, 2022, Revised Selected Papers, Part I · 13810 · pp. 253–267.
DOI: 10.1007/978-3-031-25599-1_19

7. Can Existing 3D Monocular Object Detection Methods Work in Roadside Contexts? A Reproducibility Study (2023).
Silvio Barra, Mirko Marras, Sondos Mohamed, Alessandro Sebastian Podda, Roberto Saia. AIxIA 2023 – Advances in Artificial Intelligence · 14318 · pp. 321–335 · Springer.
DOI: 10.1007/978-3-031-47546-7_22

8. A Deep Learning Solution for Integrated Traffic Control Through Automatic License Plate Recognition (2021).
Riccardo Balia, Silvio Barra, Salvatore Carta, Gianni Fenu, Alessandro Sebastian Podda, Nicola Sansoni. Computational Science and Its Applications – ICCSA 2021 · 12951 · pp. 211–226 · Springer International Publishing.
DOI: 10.1007/978-3-030-86970-0_16

9. From Fully Supervised to Blind Digital Anastylosis on DAFNE Dataset (2021).
Paola Barra, Silvio Barra, Fabio Narducci. Pattern Recognition. ICPR International Workshops and Challenges · pp. 628–642 · Springer International Publishing.
DOI: 10.1007/978-3-030-68796-0_45

10. Heimdall: an AI-based infrastructure for traffic monitoring and anomalies detection (2021).
Andrea Atzori, Silvio Barra, Salvatore Carta, Gianni Fenu, Alessandro Sebastian Podda. 2021 IEEE International Conference on Pervasive Computing and Communications Workshops and other Affiliated Events (PerCom Workshops) · pp. 154–159.
DOI: 10.1109/PerComWorkshops51409.2021.9431052

11. Natural Interaction with Traffic Control Cameras Through Multimodal Interfaces (2021).
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