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Academic Highlights

UNIMARCONI RANKED AMONG TOP 2,000 UNIVERSITIES WORLDWIDE BY CWUR 2025

The Center for World University Rankings (CWUR) has released its 2025 list, evaluating over 21,000 universities globally based on key objective indicators: quality of education, graduate employability, scientific productivity, and research impact.

Università degli Studi Guglielmo Marconi (UniMarconi) has achieved a global rank of 1,765, positioning it among the top 8.3% of universities worldwide. Notably, UniMarconi stands out as the only Italian online university included in the top 2,000 institutions — a significant achievement that underscores the university's academic excellence.

This milestone highlights the strength of UniMarconi's educational model and its ongoing commitment to research and innovation on an international scale.

Explore the full ranking at cwur.org.

UNIMARCONI VISITS TEMPLE UNIVERSITY

The Rector of Guglielmo Marconi University, Professor Marco Abate, together with Professor Francesco Gaspari, recently visited Temple University in Philadelphia.

The meeting with Temple University's leadership provided a valuable opportunity to discuss key themes such as internationalization, joint research initiatives, and educational innovation.

The primary objective was to lay the groundwork for new strategic collaborations between the two institutions.

Through this engagement, UniMarconi reaffirms its commitment to fostering a truly global education, encouraging academic dialogue and the exchange of best practices with leading universities worldwide.

Spotlight on Research

SPECTRA-AI: AI-BASED SPECTRAL PATTERN RECOGNITION FOR CLASSIFYING TRANSIENT ASTRONOMICAL RADIATIONS

Under the National Recovery and Resilience Plan (NRRP), as operating tool to apply the Next Generation EU Programme, the Department of Engineering sciences of Unimarconi is managing the SPECTRA-AI research project (full title "Spectral Pattern Extraction for Classifying Transient Radiations in Astronomy with Artificial Intelligence"), with the scientific coordination of professor Alberto Garinei. The project aims to revolutionize the field of astronomical observation through the development of an automated system that leverages advanced deep learning techniques to detect, analyze, and classify transient astronomical sources using gamma-ray data. The integration of Convolutional Neural Networks (CNNs) is enable the processing of spatial images to identify transient phenomena, while the use of Recurrent Neural Networks (RNNs), such as LSTM and GRU, as well as Transformers, allows to facilitate the analysis of time series that signal significant variations related to transient events. Additionally, the use of Graph Neural Networks (GNNs) allows to model the complex relationships between various events and sources, optimizing the integration and interpretation of the collected data.

Currently the project is close to reach its final objectives. In particular, in the last three months the researchers, building upon their initial prototypes, standardized the use of the Fermi Science Tools' gtobssim module to produce both photon-count cubes and corresponding exposure maps. In particular, gtobssim produces the fits files corresponding to events for the Fermi LAT. These are fed into the fermipy tools to produce photon counts and exposure maps mimicking an average real Universe, as seen by the Fermi LAT. This involved formalizing the configuration files (e.g., energy binning, ROI definitions, pointing histories) and implementing automated scripts to validate simulation outputs against known instrument response functions. Rigorous quality checks were introduced—verifying count statistics, exposure uniformity, and background realization—so that downstream training sees consistent, reliable inputs.

With the consolidated pipeline in place, it was explored a diverse corpus of simulated observations spanning a range of sky regions, inclination angles, and background levels. This dataset encompasses realistic variations in exposure due to orbital precession and South Atlantic Anomaly passages, ensuring our models encounter both high-signal and low-signal regimes. Metadata tagging for each simulation run (e.g., ROI center, livetime, random seed) allows traceability and flexible sub-sampling for future ablation studies.

The simulated maps were preprocessed into standardized input tensors and fed into three main architectures:

1. ConvLSTM: Exploits spatiotemporal correlations by interleaving convolutional feature extraction with LSTM cells that propagate temporal context.

2. Autoencoder: Learns compact spatial representations via symmetric encoder–decoder convolutional stacks.

3. Hybrid ConvLSTM-Autoencoder: merges the autoencoder backbone with temporal recurrence to jointly model spatial compression and sequence dynamics.

Training was orchestrated using a modern deep-learning framework (PyTorch), leveraging mixed-precision arithmetic and checkpointing to manage large models on NVIDIA A1000 GPUs with 24 GB VRAM. Data loaders employ on-the-fly normalization and shuffling to maximize sample diversity.

Evaluation on held-out simulated maps shows that all three models effectively reconstruct underlying count and exposure patterns, with spatial feature maps (e.g., point sources and extended structures) preserved and temporal evolution smoothly captured. Qualitatively, the ConvLSTM model exhibits strong continuity across time steps, while the Autoencoder variants yield highly compressed latent representations that still retain salient image features. These results indicate learning of both spatial textures and temporal sequences, motivating deeper quantitative analysis in the next phase. To streamline the neural network model development, researchers optimized I/O through a fast, in-memory file system reduced end-to-end training latency and memory.

Glance at the Future

NEET YOUTH IN EUROPE: 11% OF YOUNG PEOPLE LEFT BEHIND UNIMARCONI OFFERS A PATH FORWARD

In 2024, more than 1 in 10 young Europeans aged 15 to 29 found themselves in a precarious position: not in employment, education, or training—a group referred to as NEETs. According to recent data, 11% of youth across the European Union fall into this category, a troubling figure with serious long-term implications.

Being NEET often means more than temporary unemployment or a pause in studies. It carries a high risk of social exclusion, poverty, long-term unemployment, and marginalization. For many, it becomes a cycle that's hard to escape without targeted intervention.

The European Union has recognized the urgency of the issue, setting a clear target: reduce the NEET rate to below 9% by 2030. Achieving this goal will require coordinated efforts across sectors—education, labor, and social policy—with universities playing a key role.

The NEET problem isn't equally distributed. Countries like the Netherlands, Sweden, Germany, and Ireland show the lowest NEET rates, while Romania, Italy, Greece, and Lithuania report some of the highest. The disparities extend to gender and geography as well:

12.1% of young women are NEETs, compared to 10.0% of young men, 12.3% of rural youth are affected, compared to 10.0% in cities.

These gaps highlight the urgent need for inclusive, flexible, and skill-focused solutions that can reach those most at risk—especially young women and those in rural areas.

Universities are uniquely positioned to offer educational pathways that re-engage young people and equip them with the tools they need to thrive in the workforce. Yet traditional models often leave many behind due to rigid schedules, high costs, or geographic barriers.

UniMarconi embraces a flexible, digital-first educational model that addresses the very barriers keeping young people out of education and training. By focusing on accessibility, practical skills, and innovation, UniMarconi creates opportunities for youth who might otherwise be excluded from traditional academic systems.

Whether it's through remote learning, modular programs, or career-focused curricula, UniMarconi is actively working to bridge the gap between education and employment. The goal is not just to offer degrees, but to empower young people with the skills and confidence they need to integrate into the workforce and society.

In a time when the future of Europe depends on the inclusion and activation of its youth, universities must rise to the challenge. UniMarconi is proud to be part of the solution.

NEW REPORT REDEFINES LIFE SKILLS FOR A DIGITAL AGE

The Dig-2-Inc project has released a new report titled, Life Skills in a Digital Context, offering a fresh framework for higher education institutions to support student success in an increasingly digital world.

In response to the European Union's Life Skills Agenda, the report adapts core personal, social, and learning-to-learn competencies — such as self-regulation, communication, and critical thinking — for virtual learning environments.

It guides universities in embedding these skills into digital platforms, online communication, the use of open educational resources (OER) , and academic integrity practices.

Based on survey data from university staff across Bulgaria, Finland, France, Italy, and Romania, the report identifies key needs and opportunities in four areas: students' academic experiences, employability, university recognition of digital life skills, and the broader digital learning ecosystem.

Key findings:
Reframing core skills: Life skills must evolve for digital learning and communication environments.
Inclusive access: Digital tools should be designed to support all learners, bridging gaps in access and literacy.
Academic integrity: Fostering authenticity through transparent assessment and digital ethics education is crucial.
Smart use of OER: Teaching students to critically use and share open resources enhances engagement and collaboration.
Continuous improvement: Regular feedback and benchmarking enable institutions to stay responsive to technological change.

Compact and practical, the report serves as a resource for curriculum design, institutional planning, and student engagement, ensuring graduates are digitally competent and ready for life beyond university.

Read the full report on the official website of Dig-2-Inc project

GMU Magazine has been released with the contribution of all academic staff and partners around the world, if you wish to contribute higlighting any important news in accordance with the line of the release, please do not haesitate to contact us sending an email