Keynote Lecture	ICEIS
09:30 - 10:30	Room Levante 2

Rationality and the Bayesian Paradigm

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Abstract: It is argued that, contrary to a rather prevalent view within economic theory, rationality does not imply Bayesianism. The note begins by defining these terms and justifying the choice of these definitions, proceeds to survey the main justification for this prevalent view, and concludes by highlighting its weaknesses.

Poster Session 2	ICEIS
10:30 - 11:30	Room Levante Foyer

Complete Paper #84

Post-Session LLM-Based Analysis of Multi-Role Teleconsultations for Audit and Medical Education

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Keywords: Large Language Models, Telemedicine, Primary Care, Clinical Conversation Analysis, Session Summarisation, Multimodal Indexing, Case-Based Retrieval, Medical Education.

Abstract: Synchronous video teleconsultations between primary care staff and hospital specialists can provide timely expert input without moving the patient, yet the resulting recordings are often left as opaque audiovisual files that are costly to review and difficult to reuse for audit or teaching. This paper presents a post-session analysis pipeline that turns each multi-role consultation into a repository-ready case fiche. The approach combines speech processing (time-aligned transcription and speaker/role attribution) with LLM-based temporal structuring, structured extraction, and section-level summarisation. A key design goal involves that every extracted item and summary statement is linked to time references over the transcript and the original audiovisual stream, so reviewers can quickly verify evidence and navigate to relevant moments. The work is situated within the MRP-5G system context, but focuses specifically on the post-session analytics layer and its repository-oriented outputs. We also describe a reproducible evaluation protocol based on a synthetic multi-role corpus generated by our web prototype, providing controlled ground truth (scripts, turn boundaries, roles, and timestamps) and enabling largely automatic metrics for role attribution, traceability, and retrieval/navigation. Finally, a qualitative spot-check illustrates typical failure modes and practical mitigations when producing structured, evidence-linked artefacts.

Complete Paper #152

PRIORI: An Ontology-Based Approach with a Context-Sensitive Chatbot for Classifying Risk and Protective Factors in Child Health

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Keywords: Ontology, Clinical Decision Support, Risk and Protection Factors, Conversational Agent, Explainability.

Abstract: This article presents PRIORI, an integrated proposal aimed at supporting the structured collection of information and the classification of risk and protection in child care services. The approach combines a modular architecture based on chatbot, ontology, and a rule-based symbolic inference mechanism, aiming to ensure semantic consistency and traceability in the interpretation of the collected data. As main contributions, the following stand out: an architecture that integrates interaction and communicational adaptation modules (ADAPTA) with an ontological base and an inference engine; the preliminary ontological modeling of the social domain of the child risk and protection inventory, organized to favor interpretability and inspection; and an initial prototype that demonstrates dialogue strategies adapted to different user profiles. The results highlight the potential of the approach to support the structured collection and interpretation of biopsychosocial factors in child care contexts, offering a conceptual and technical basis for applications in real-world scenarios.

Complete Paper #234

Cattle Weight Estimation from Dense Point Clouds

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Keywords: Structure-from-Motion, 3D Reconstruction, UAV, Livestock Precision.

Abstract: Cattle weight is essential for decision-making in precision livestock farming, directly supporting nutrition management, animal welfare, and production efficiency. Existing methods rely on close-range measurements or manual intervention, limiting scalability. This work proposes an workflow for cattle weight estimation based on point clouds derived from aerial images. RGB images acquired at low altitude were processed using Structure from Motion (SfM) techniques to generate dense point clouds. Individual animals were automatically segmented from the reconstructed 3D scene, and voxel-based volumetric features were extracted for each animal. Body weight was then estimated through linear regression models calibrated with ground truth measurements obtained from individual weighing. The proposed approach was evaluated on Nellore cattle in a feedlot environment and achieved a root mean square error (RMSE) of 8.35 kg, corresponding to an average relative error of approximately 2.29%.

The results highlight the potential of UAV-based photogrammetry as a cost-effective decision support tool for digital and sustainable livestock management.

Complete Paper #245

A Process Mining Case Study in IT Incident Management

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Keywords: IT Incident Management, Process Mining, Attribute-Based Segmentation, Process Diagnostics, Information Technology Service Management.

Abstract: This article presents a case study on the application of process mining techniques in IT incident management within the Department of Information and Technology Services (DSIT) at a university in Colombia. The study aims to bridge the gap on the use of process mining for diagnostics in IT service management (ITSM) projects. The methodology involves generating an event log from 3440 incident registers exported from the CRM platform this institution uses to manage IT incidents, followed by process discovery and attribute-based segmentation to identify patterns in process execution. The case study demonstrates the feasibility of applying process mining techniques to the diagnostics of IT management processes, highlighting challenges encountered and solutions applied. The results indicate that process mining can help align IT management processes with performance goals, providing valuable insights for the DSIT's ongoing transformation project.

Poster Presentations (Online) 2 **ICEIS**
10:30 - 11:30 **Room Online 1**

Complete Paper #157

Energyguard Data Lake Architecture: From Heterogeneous Ingestion to Federated Data Sharing

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Keywords: Data Lake Architecture, Testing and Experimentation Facilities (TEFs), Semantic Interoperability, Federated Data Sharing, Data Governance and Privacy.

Abstract: The increasing deployment of artificial intelligence, digital twins and advanced sensing technologies in the energy sector requires data infrastructures capable of managing heterogeneous sources, large-scale time series and strict security, privacy and governance requirements. This paper presents a modular Data Lake architecture designed to support trustworthy AI development, testing and validation in energy-related scenarios. The proposed solution provides a scalable pipeline for data ingestion, harmonisation and storage, while promoting interoperability through semantic modelling, metadata management and standardised interfaces. A layered architecture enables integration with external services and federated data sharing, ensuring controlled access, traceability and accountability across the data lifecycle. The resulting design provides a practical blueprint for secure and interoperable Data Lake platforms supporting AI-enabled energy systems experimentation.

Complete Paper #208

Architectural Patterns for Data Mesh and Data Space Implementations

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Keywords: Data Space, Data Mesh, Data Architecture, Data Management, Data Governance, Data Sovereignty, Architecture Patterns.

Abstract: Data-driven decision-making requires scalable, reliable data sharing, yet organizations face bottlenecks in centralized platforms and sovereignty constraints in cross-organizational exchange. This paper compares the socio-technical paradigms of Data Mesh (intra-organizational) and Data Spaces (inter-organizational) from a technical perspective, a pattern-based lens grounded in Design Science Research. It identifies two complementary Data Mesh patterns: logically decentralized meshes, in which domains own data products on a shared platform, and physically decentralized meshes, in which domains operate separate environments and federate discovery and access. For Data Spaces, it characterizes implementations as compositions of recurring patterns, notably connector-centric peer-to-peer exchange and explicit separation of the control plane from the data plane. The paper analyzes catalogs as a convergence point, showing how their characteristics differ across paradigms and how governance is executed, and synthesizes four delivery patterns (in-place access, replication, streaming, compute-to-data) to clarify trade-offs in sovereignty, the feasibility of technical controls, and operational complexity.

Complete Paper #224

Practitioner Perspectives: Usability Needs for Digital Sustainable Product Development Tools

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Keywords: Usability Heuristics, Sustainable Product Development, Design Guidelines, Participatory Design.

Abstract: This study investigates the application of Nielsen's 10 usability heuristics in the design of digital Sustainable Product Development (SPD) tools using a participatory design approach. Participants included representatives from three companies and SPD experts from academia. During the workshops, the ten usability criteria were presented, after which participants engaged in a brainstorming session to generate practical recommendations for SPD tool design based on their professional experience. The results suggest that SPD practitioners consider these heuristics