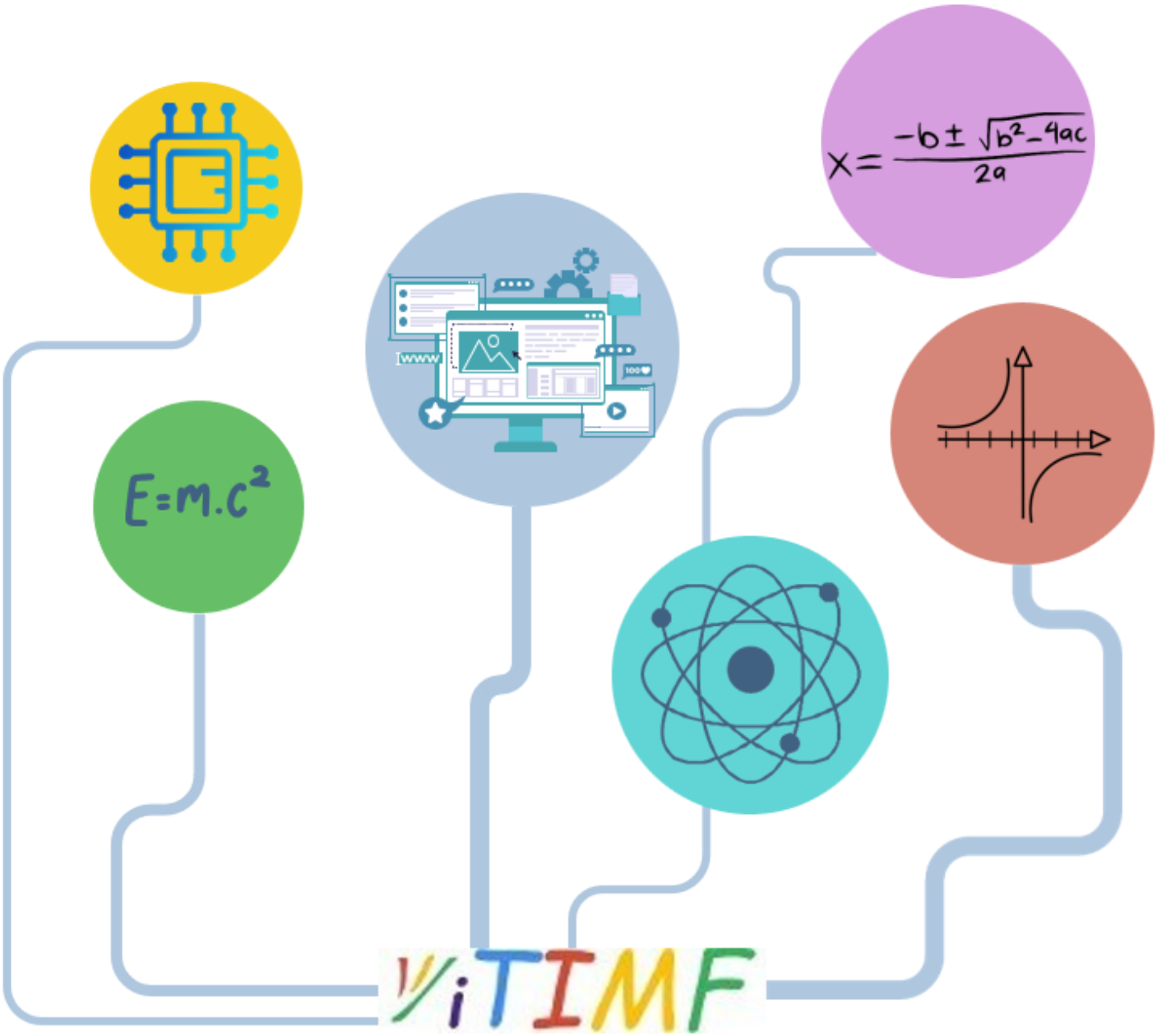
Departamentul Informatică, Tehnologia Informației, Matematică și Fizică

Tendințe în Știință și Tehnologie
Confluența Matematicii, Fizicii și Informaticii



ViTIMF

26 iunie 2025

„Tendințe în Știință și Tehnologie. Confluența Matematicii, Fizicii și Informaticii”

Volum de rezumate

Ploiești

26 iunie 2025

Contents

The good and bad sides of LLMs

Hasnas Maria Isabela
Petroleum-Gas University of Ploiesti

Large Language Models (LLMs), including GPT-4 and PaLM, have rapidly reshaped how individuals interact with information, automate tasks, and enhance productivity across domains. This paper provides a critical analysis of the dual nature of LLMs, outlining their transformative benefits as well as the challenges they pose. On the positive side, LLMs serve as tireless digital assistants, accessible 24/7, capable of facilitating personalized learning, boosting creativity, and streamlining complex workflows in both education and enterprise environments. However, these advantages come with notable risks. Among them are increasing user dependency, reduced critical thinking, potential propagation of misinformation, and significant privacy concerns related to data input and model training. Drawing on current academic research, the analysis explores how LLMs affect not only technical outcomes but also cognitive processes and ethical boundaries. The paper emphasizes that these tools should be approached with critical awareness and used in ways that support human capabilities rather than replace or undermine them.
The responsible development and application of LLMs will determine whether they become reliable allies in learning and work, or tools that erode autonomy and trust.

Statistical manifolds and statistical submersions

Savescu-Neacsu Crina-Daniela
National University of Science and Technology POLITEHNICA Bucharest

Mixed 3-structures are known to be the counterpart in odd dimension of the quaternionic structures of second kind, also termed in the literature as paraquaternionic structures. In this talk, we will investigate the statistical structures in paraquaternionic and mixed 3-Sasakian geometry. We derive the main properties of statistical manifolds equipped with such kind of structures, focusing on the case of mixed 3-Sasakian statistical manifolds and paraquaternionic Kähler-like statistical manifolds. Moreover, we investigate the geometry of statistical submersions with total space a mixed 3-Sasakian manifold or a paraquaternionic Kähler-like statistical manifold. We also provide some illustrative examples.

Advances in Applied Data Science: Trends in Machine Learning and Ensemble Techniques

Tudorică Daniela, Dragomir Elia Georgiana
Petroleum-Gas University of Ploiesti

Data science techniques have evolved significantly in the first half of the 2020s, driven by an explosion in data availability and advances in machine learning research. This whitepaper surveys the landscape of significant applied techniques in machine learning and ensemble techniques developed or widely adopted in the last years, focusing on practical, real-world applications rather than purely theoretical innovations.

Ensemble Methods – Boosting and Bagging. Traditional machine learning techniques continued to play a vital role, often in tandem with deep learning. Ensemble methods, especially gradient-boosted decision trees (GBDTs) like XGBoost, LightGBM, and CatBoost, remained important tools for structured (tabular) data. In competitive settings and industry applications, these methods frequently outperformed deep neural networks for tabular datasets. Notably, an analysis of 2022 machine learning competitions found that most tabular challenges were won using GBDT models, with winners converging on a common toolkit that included LightGBM/XGBoost for GBDTs, alongside PyTorch for deep learning and Optuna for hyperparameter optimization (https://mlcontests.com/state-of-competitive-machine-learning-2022). The advantage of these ensemble techniques lies in their high accuracy, interpretability and efficiency on smaller data, though they may struggle with unstructured data like images or text.

Federated Learning. Multiple devices or silos of data collaboratively train a global model without sharing their raw data – only model updates are exchanged. First popularized by Google around 2017 for applications like the Gboard mobile keyboard, federated learning saw expanded adoption by the early 2020s in areas like healthcare and finance. Frameworks such as TensorFlow Federated and PySyft (OpenMined) facilitated these deployments.

Meta-Learning and Few-Shot Learning. These approaches, often overlapping with deep learning, aim to train models that can learn new tasks or adapt to new data with very few examples. While the core research on meta-learning (like MAML) predates 2020, practical interest grew as organizations faced the challenge of applying ML in scenarios with limited labeled data. At the algorithmic level, techniques like prototypical networks, or simply clever use of pre-trained embeddings plus fast adaptation, became a common strategy. These methods proved useful in applications like medical diagnostics (where only a few cases of a rare condition might be available for training) and personalized recommendations (cold-start problem for new users or items). The benefit of few-shot approaches is reduced data dependency; the drawback is often a trade-off in accuracy or the need for extremely rich prior models.

In summary, the first half of the 2020s for traditional ML was characterized less by entirely new algorithms and more by the **solidification and integration** of existing techniques into robust, user-friendly frameworks.

A Comprehensive Survey on Self-Supervised Learning Techniques

Dragomir Elia Georgiana, Tudorică Daniela
Petroleum-Gas University of Ploiesti

One of the most promising and rapidly evolving areas in artificial intelligence is considered to be self-supervised learning (SSL). It offers a method for training models to learn useful patterns and representations from large volumes of unlabeled data, by designing pretext tasks that generate supervisory signals internally, without human annotation. This approach is particularly valuable today, when vast quantities of data (text, images, audio, video) are available, but only a small portion is labeled in a meaningful way. The present work provides a detailed and accessible overview of the current landscape of self-supervised learning. The core principle of SSL involves enabling a model to learn by predicting certain parts of its input from other parts. For example, in natural language processing (NLP), a model might learn to predict a missing word in a sentence, thus learning the structure and semantics of language. In computer vision, models might learn to determine whether two image patches belong to the same original image, or to reconstruct a damaged or shuffled image.
Three principal categories of SSL techniques are outlined in this review:

- Contrastive learning, which emphasizes the discrimination between similar and dissimilar input instances;
- Masked or predictive modeling, which focuses on reconstructing missing elements of the input;
- Generative modeling, wherein the objective is to generate complete data representations from partial or corrupted inputs.

Notable frameworks such as BERT, SimCLR, MoCo, BYOL, and wav2vec are analyzed in terms of their architectural innovations, training strategies, and empirical performance. The survey further highlights the transition from domain-specific pretext tasks to more general-purpose and domain-agnostic methods.
Several technical challenges associated with SSL are also discussed, including the risk of representation collapse, the difficulty of evaluating unsupervised representations, and the need for scalable, efficient training procedures. Empirical evidence suggests that representations learned through SSL can often surpass those obtained via supervised learning when applied to downstream tasks such as classification, segmentation, and retrieval.
Numerous practical applications underscore the impact of SSL, including fields such as healthcare, speech recognition, autonomous systems, and multilingual processing. As SSL continues to develop, it is increasingly recognized as a foundational component in the training of large-scale AI systems. Among the key advantages of SSL is the ability to unlock the value of vast datasets that were previously considered unusable due to the lack of labels.
The research concludes by identifying key open problems and future directions, such as formalizing the theoretical foundations of SSL, establishing standardized benchmarks for evaluation, and exploring hybrid models that combine SSL with reinforcement and continual learning.

Qualitative analysis of a three steps numerical procedure

Gogoașă Alexandru
Department of Mathematics and Informatics
National University of Science and Technology Politehnica Bucharest

This talk refers to the analysis of a numerical procedure in three steps, having as purpose the reckoning of a fixed point of cvasi-nonexpansive operators. We had in view the iterative process introduced by Thakur, Thakur and Postolache [A New Iteration Scheme For Approximating Fixed Points of Nonexpansive Mappings [Filomat, 30:2711-2720, 2016]. A qualitative analysis of the behaviour of this scheme is done, with regard to its convergence, stability and data dependence. Comparisons are made with respect to other numerical schemes, from the point of view of the convergence speed, and CPU time.

Cohen-Macaulay types of certain edge subrings of bipartite graphs and (generalized) Fuss-Catalan numbers

Alin Ștefan, Mihai Nicolae
Petroleum-Gas University of Ploiesti

We give an example of two non isomorphic coordinate rings of a special kind of convex polyominoes whose Cohen-Macaulay types are generalized Fuss-Catalan numbers. We further provide a determinantal formula for these numbers.

On some generalized classes of nonexpansive operators

Micu Claudia Mihaela
National University of Science and Technology "Politehnica" Bucharest

The aim of this talk is to present an iterative Man procedure for enriched generalized Suzuki operators, which extend already known classes of weakly contractive mappings. The first result concerns a regularity property of the sequence generated by the Mann process for a class of operators with adequate properties. Properties related to the set of fixed points of enriched Suzuki operators are proved. Convergence properties for the Mann method are presented for some classes of enriched mappings. Examples and counterexamples complete the paper.

On some vector optimization problems

Ariana Pitea
National University of Science and Technology POLITEHNICA Bucharest

This talk has as aim the analysis of some multiobjective optimization problems, with constraints, în the geometric setting of jet bundles. There are stated necessary conditions for an efficient solution. Under some additional hypotheses, sufficient conditions for the feasible solutions to be Pareto efficient are formulated. Certain types of duality are emphasized.

Implementing New Learning Technologies in the Study of Exact Sciences

Anca Baciu, Zoltan Borsos, Irina Ioniță, Liviu Ioniță, Georgeta Nan
Petroleum-Gas University of Ploiești

This paper aims to explore the relevance and complementarity of traditional teaching methods in relation to new technologies, highlighting the advantages, challenges, and integration strategies.

Traditional methods of experimentation have proven their importance over time for practical education in the exact sciences. They provide students the opportunity to manipulate real equipment and conduct experiments under controlled conditions, thereby developing essential practical skills. Direct experience with scientific materials and phenomena is difficult to replicate completely through virtual simulations.

Modern technologies can personalize the learning process by offering feedback and adaptive support, while augmented reality (AR) and virtual reality (VR) applications can create immersive learning experiences that make abstract concepts. easier to understand.

These technologies can be integrated in a complementary way, creating a hybrid learning environment that maximizes the benefits of both approaches.

Using a quantitative research method, we aimed to analyze the impact of different learning methods on students, including classical experimentation, phenomenon simulation, and traditional demonstrations. Data from 100 participants was analyzed, using questionnaires as the research tool.

The results suggest that experimental and interactive methods can enhance students' understanding of the concepts studied in the exact sciences and can help develop critical thinking skills and learning autonomy.

At the same time, traditional teaching technologies developed and refined over time, such as lectures and conventional experimental methods, continue to play an important role in the teaching and understanding of the exact sciences.

Integrating new technologies into university education presents both challenges and opportunities for creating a more efficient and adaptable learning environment.

It is important to maintain a balance between traditional methods and new technologies. Each has its own advantages and limitations, and integrating them in a complementary way can maximize the effectiveness of the learning process.

Basic Inequalities for Hypersurfaces in Spacetimes

Alina Daniela Vîlcu
Petroleum-Gas University of Ploiești

The main objective of this work is to obtain optimal geometric inequalities for spacelike hypersurfaces in a class of generalized Robertson-Walker (GRW) spacetimes. These spacetimes, which are important in cosmology, are warped product models where a Riemannian manifold is “deformed” by a time-dependent warping function.
A specific family of GRW spacetimes is investigated, where the fiber is a Riemannian manifold with constant sectional curvature. In this context, the study focuses on generalized normalized Casorati curvatures, which are extrinsic invariants related to the way the hypersurface is embedded in the ambient spacetime.
The main results consist in establishing lower bounds for these Casorati curvatures, expressed in terms of the intrinsic curvature of the hypersurface, the constant curvature of the fiber, and the warping function. Moreover, the equality conditions are characterized: they are achieved if and only if the hypersurface is invariantly quasi-umbilical, has flat normal connection, and the Weingarten operator has a specific diagonal structure.
In the final part of the paper, the main result is particularized to several classical cosmological models, such as the Lorentz-Minkowski, de Sitter, anti-de Sitter, and steady state spacetimes. For each of these, explicit forms of the inequalities and equality conditions are presented, along with concrete geometric examples that do or do not attain the bounds.
The article makes a significant contribution to the understanding of the relationship between intrinsic and extrinsic geometry of spacelike hypersurfaces in relativistic settings, with implications in both differential geometry and theoretical physics, particularly in the study of the structure of the universe and cosmic expansion models.

On the stability of Riemannian spaces

Gabriel-Eduard Vîlcu
Gheorghe Mihoc – Caius Iacob Institute of Mathematical Statistics and Applied Mathematics of the Romanian Academy, Bucharest, Romania

The concept of harmonic map between Riemannian manifolds has been introduced by Eells and Sampson in [Amer. J. Math. 86(1964)] as a generalization of geodesics, these maps being defined as critical points of the Dirichlet energy. It is known that the identity map of a Riemannian space (M,g) provides one of the simplest examples of harmonic maps. If this map is stable, then the Riemannian space (M,g) is said to be stable. Otherwise, (M,g) is called unstable. Although the identity map has a simple form, the study of its stability is a very difficult problem, involving techniques from different fields of mathematics.
In this talk, we discuss some recent results concerning the stability of some remarkable compact Riemannian spaces, focusing on the case of locally conformal almost cosymplectic manifolds of pointwise constant φ-holomorphic sectional curvature and generalized space forms.

On integrability of a generalized class of functions

Alina Iosif, Georgeta Maniu
Petroleum-Gas University of Ploiesti

Increased attention has been given recently to the study of multifunctions, especially due to their use in highly applied fields, ranging from statistics, biology, decision theory, economics, to signal and image processing.
The study of integrability on specific classes of functions such as multifunctions is a current research topic that continues to concern many researchers.
In this paper we present some theoretical important results on a certain type of integrability with respect to a generalized class of functions.

A study on Istrățescu type mappings

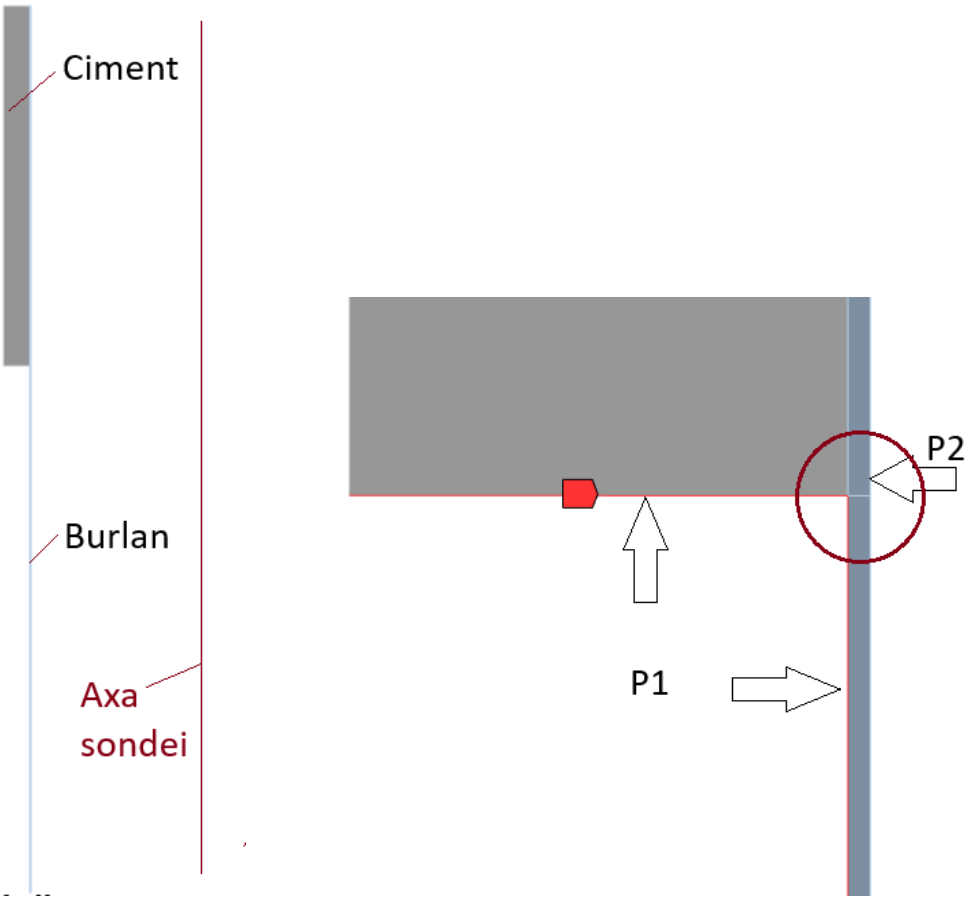
PhD student: Dumitrescu Doru-Mihai
National University of Science and Technology "Politehnica" Bucharest

The aim of this talk is to present an extension of the notion of Istrățescu type contraction in the context of generalized metric spaces in the sense of Jleli and Samet. The main difference between these metrics and the classical ones is that the triangle inequality is replaced by a limit type inequality. The outcomes are given as a set of theorems related to various contractive operators given by means of convex combinations of various distances and a certain type of mapping. Additional associated properties ensure the uniqueness of fixed points in different situations.

Modeling, using Finite Elements Method (FEM), the cement-drilling pipe bond

Ionut Lambrescu
Petroleum-Gas University of Ploiești

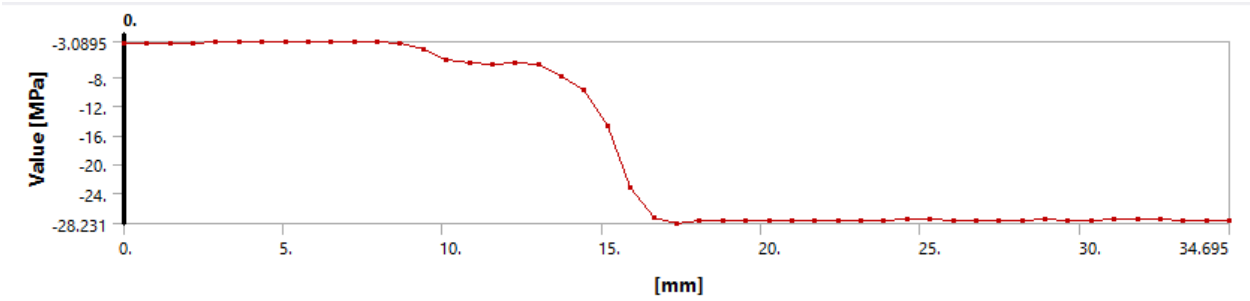
In all types of wells, for technological reasons, the interaction between the cement and the drilling pipe is of paramount importance. The two elements must bond properly. Compromising this bond can lead to very unpleasant consequences.
This is why, over time, both experimental and numerical analysis methods have been developed to model the cement-drilling pipe bonding.
In our presentation, we will focus on a numerical approach using FEM (Finite Element Method).
Modeling the contact zone between the cement and the pipe can be done in many ways. Considering the specifics of the problem, we have chosen the CZM (Cohesive Zone Material) model. This model assumes that the debonding process between the cement and the pipe follows a bilinear law.
We want to emphasize that debonding can occur through three mechanisms (modes): Mode I (normal), Mode II (tangential), and Mixed Mode.
The geometric model is simple (it uses axisymmetry) and is shown in Figure 1.a. In Figure 1.b, the applied loads are indicated: pressures P1 = 27.62 MPa and P2 = 10 MPa.



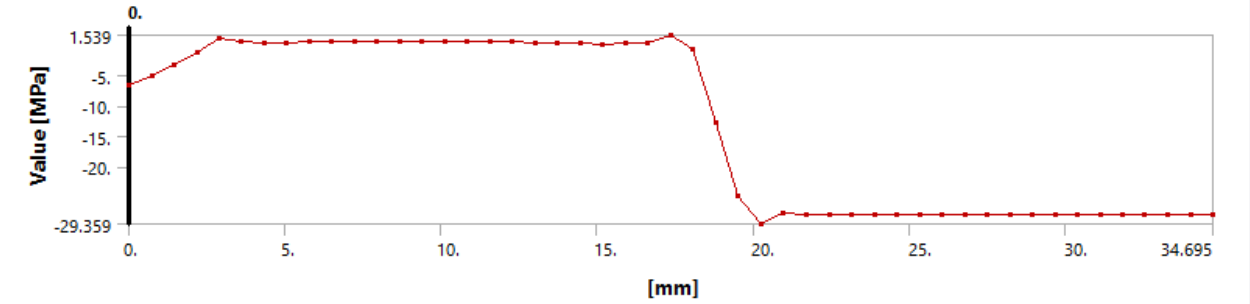
a. Geometric Model b. Loads

Figure 1

Our presentation concentrates on modeling the behavior of the area within the circle in Figure 1.b.
Since P1 > P2, the pipe tends to deform around the corner area, and debonding may occur there. This will be a Mode I debonding. If debonding occurs, pressure P1 can infiltrate the small void created, further enhancing the debonding process.
Typically, FEM does not account for this scenario, so by default, P1 is considered to act on the same areas throughout the simulation.
To address this issue, we propose an approach using APDL (Ansys Parametric Design Language), a computer language specific to ANSYS that enhances the software's capabilities.
The APDL code detects the potential area where debonding initiates and then applies pressure P1 to the contact elements in the newly created microanulus.
The results of the analysis highlight the differences between the cases where pressure infiltration is considered and where it is not.
For example, in Figure 2.a, we present the radial stresses on an approximately 35 mm zone of the pipe's outer surface in contact with the cement, considering pressure infiltration. In Figure 2.b, we present the case without pressure infiltration.



a. With pressure infiltration



a. Without pressure infiltration

Figure 2

Many other results demonstrate the increase in debonding caused by pressure infiltration.
We believe that this approach allows for a better evaluation of the phenomena occurring during cement-pipe debonding.

Bridging the Semantic Gap: An AI-Driven Approach to Natural Language Interfaces for Relational Databases

Alexandru Dumitru
Petroleum-Gas University of Ploiesti

Advancements in natural language processing (NLP) and large language models (LLMs) have enabled the development of robust natural language interfaces for relational databases (NLIDBs). Recent trends indicate a clear shift toward integrating LLMs to overcome the limitations of traditional NLIDB systems, particularly in handling complex queries and domain adaptability. This paper proposes a solution for NLIDBs using LLaMA 3 Groq 8B and an intelligent agent-based architecture to facilitate for both non-specialists and specialist users to operate on relational databases. We evaluated the system using a real-world HR database schema and a curated benchmark of 30 questions. Results demonstrate that such an integration can have promising outcomes and modular scalability over traditional monolithic NLIDBs, giving correct SQL queries for 20 questions out of 30. Our findings highlight the benefits of agent LLM collaboration in resolving linguistic ambiguities and managing schema complexity, offering a promising direction for adaptive, domain-agnostic NLIDBs.

AI Agents in Education: Between Personalization, Efficiency, and Cognitive Risks

Daniela Șchiopu
Petroleum-Gas University of Ploiesti

The emergence of autonomous AI agents, based on large language models (LLMs), marks a new stage in the integration of artificial intelligence into the educational process. In particular, the field of computer science, due to its digital and dynamic nature, provides a favorable context for exploring these technologies. This article examines how AI agents can influence teaching, learning, and assessment activities, highlighting both the opportunities they create and the potential challenges. It also presents specific applications within computer science disciplines and discusses the ethical and pedagogical implications of adopting this emerging technology.

Multi-Scale Temporal Analysis of Urban Microclimatic Data, from Daily Patterns to Annual Trends

Zoltan Borsos, Anca Baciu, Georgeta Nan, Mihaela Necula
Petroleum-Gas University of Ploiesti

This study presents a comprehensive approach to urban microclimate monitoring using high-resolution data collected from a personal weather station, installed at Petroleum-Gas University of Ploiesti. The dataset captures multiple environmental parameters, including outdoor and indoor temperatures, humidity levels, solar radiation, ultraviolet index (UVI), wind characteristics, atmospheric pressure, and precipitation, recorded systematically at regular intervals.

The principal aim is to expand these observations into a robust, long-term dataset covering multiple days and months. Such longitudinal data will facilitate comparative analyses across varying temporal scales, providing insights into daily fluctuations, seasonal patterns, and interannual variability. The granular temporal resolution enables the precise identification of micro-scale climatic features, such as daily thermal amplitudes, humidity cycles, and local variations in solar radiation intensity and wind dynamics.

By comparing microclimatic data across different months, this research seeks to identify persistent seasonal trends and detect anomalous weather phenomena. Annual comparisons will enable tracking long-term climate trends at the urban micro-scale, potentially linking them to broader meteorological events or anthropogenic influences like urban development and green-space reduction.

Furthermore, statistical analyses, including correlation assessments and trend analyses, will be performed to highlight interactions among different climatic parameters, enhancing the understanding of local climate dynamics. The extended dataset will also support investigations into climate extremes, thermal comfort conditions within urban environments, and energy efficiency implications for building management.

A Hyper-Ellipsoids-based Aproach to Mitigate the Instability in Local Interpretable Model-agnostic Explanations

Lidia Angelica Iancu, Gabriela Moise, Elia Georgiana Dragomir
Petroleum-Gas University of Ploiesti,

LIME is one of the most popular algorithms for providing explanations about decisions generated by the complex prediction models [Ribeiro et al., 2016]. However, it has a great issue which reduces the confidence in its outcomes. More precisely, running it multiple times for the same prediction provides different outcomes. In this paper, we present our work in progress related to this topic and propose a new mode to obtain the surrogate dataset, which is used in LIME. This new method, named HELIME, generates points through the use of one or more hyper-ellipsoids. The centre of the main hyper-ellipsoid is defined by the instance whose prediction we want to explain. The centres of other hyper-ellipsoids are in the vicinity of the instance based on certain criteria. We obtain the target variable for these points using the prediction model and use this new dataset to train an interpretable model. We evaluate the obtained explanations by computing seven metrics: the feature agreement, the rank agreement, the sign agreement, the signed rank agreement, the Euclidian distance, the Manhattan distance and the cosine similarity.

We performed more experiments and compared the results obtained with LIME and HELIME to see if the disagreement level decreased in our approach. The results showed some improvements of HELIME in some types of datasets, which led us to continue to refine the method until we achieved significant advantages of using HELIME over LIME.

The subject is important in the light of AI Act adopted by European Parliament and Council, which claims that the transparency and trustworthiness of AI systems involve the traceability and explainability of them to ensure that AI systems are ethically following the seven ethical principles, “human agency and oversight; technical robustness and safety; privacy and data governance; transparency; diversity, non-discrimination and fairness; societal and environmental well-being and accountability” [AI Act, 2024].

[Ribeiro et al., 2016] Marco Tulio Ribeiro, Sameer Singh, and Carlos Guestrin. 2016. "Why Should I Trust You?": Explaining the Predictions of Any Classifier. In Proceedings of the 22nd ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD '16). Association for Computing Machinery, New York, NY, USA, 1135–1144. https://doi.org/10.1145/2939672.2939778

[AI Act, 2024] Artificial Intelligence Act, Regulation (EU) 2024/1689 of the European Parliament and of the Council of 13 June 2024 laying down harmonised rules on artificial intelligence and amending Regulations (EC) No 300/2008, (EU) No 167/2013, (EU) No 168/2013, (EU) 2018/858, (EU) 2018/1139 and (EU) 2019/2144 and Directives 2014/90/EU, (EU) 2016/797 and (EU) 2020/1828

A Theoretical Model for EEG-based Multi-label Emotion Recognition. Why is it difficult to implement it?

Gabriela Moise, Elia Georgiana Dragomir, Georgeta Maniu, Lidia Angelica Iancu
Petroleum-Gas University of Ploiesti

There are two main approaches to emotion recognition: discrete and dimensional models. The discrete model assumes the existence of a set of basic emotions, while in the dimensional model an emotion is described by three dimensions, valence, arousal, and dominance. There is no generally valid formula to map accurately a discrete emotion to the dimensional space. So, the building and deployment of the ML models for emotion recognition is a difficult task, because the concept, data and model drift have a high incidence of occurrence.
The main problem is the data, because we do not find in the same data set (coming from the same population) a faithful assessment of a discrete emotion through the three dimensions. For example, fear is characterized by negative valence, high arousal and low dominance, but we do not know how high the arousal is or how low the dominance is.
In this paper we propose a theoretical model for multi-label emotion recognition starting from mean and standard deviation values for discrete emotions in VAD space, in scale [-1,1] found in [Hoffmann et al., 2012]. We use DEAP dataset for EEG records and VAD evaluation for emotions in scale [1, 9] to train our model [Koelstra et al., 2012]. The model is theoretical, this can be implemented if we take into account the limitations imposed by using two different populations in obtaining the data set. Our belief is that we can use ML models for emotion recognition only if they are calibrated to the individual user and retrained, accordingly.

The dimension of motivation in the STEM field

Simona Nicoară
Petroleum-Gas University of Ploiesti

Steven Covey asserted that “alongside physical survival, the human beings' greatest need is the psychological survival, the need to be understood, appreciated, and to have their worth confirmed”. This need becomes even more pronounced in very dynamic work contexts, often marked by tension, which accompany the STEM field. This paper synthetically addresses the complex dimensions of motivation in the workplace within STEM areas, focusing on the main motivators (among which the feeling of appreciation plays a decisive role) and concrete tested solutions for boosting motivation (such as forming authentic partnerships and using participatory methods based on the human values identified in the working teams, and even creating teams starting from these fundamental needs).

Does the current trend of artificial intelligence indicate progress for humanity and human society?

Simona Nicoară
Petroleum-Gas University of Ploiesti

The Artificial Intelligence (AI) industry, national and international regulatory bodies in the field declare as their working mission and promote an image of AI for sustainable development and social welfare. The national Romanian strategy in the field of AI 2024-2027 lists among the principles that underpin the development of technologies incorporating AI, human-centeredness, inclusivity, non-discrimination, impartiality, transparency, sustainability, and trust. The paper approaches an analysis of the current compatibility of AI with human progress, of promises about AI that are not supported by reality, of the inevitability of its current trajectory, and of its main beneficiaries. It also discusses some aspects of LLMs, AGI, and deep learning.

AI tools for GDPR compliance

Isabela Maria Hasnaș, Gabriela Moise și Dana Volosevici
Petroleum-Gas University of Ploiesti

In this paper we investigate several artificial inteligence (AI) tools for General Data Protection Regulation (GDPR) compliance, topic that represents a goal of the project LLM-based Assistant for GDPR Compliance in the Employment Relationships. Nowadays, the GDPR compliance is a very important topic, and the need for digital tools helping different users such as the general public, employees, managers, data protection officers, researchers, legal national and international GDPR authorities is rising. The AI tools presented are CompAI, DoNotPay, ChatGPT and Claude AI. After our analysis, we concluded that there is a real need for a new tool based on LLM that solves the gaps between legislative formulations and practical implementation of them.
We are confident that our tool will bring benefits to the GDPR landscape, and we intend to develop our proposed LLM-based assistant, Assist2GDPR that will help specialists and non-specialists with GDPR-compliant employment advices and provide a summarised case breakdown for EU-based GDPR fines.

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