



Mihai Dan Masala

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WORK EXPERIENCE

 **POLITEHNICA UNIVERSITY OF BUCHAREST** – BUCHAREST, ROMANIA

ASSISTANT LECTURER – 30/09/2015 – CURRENT

- Algorithm Analysis
- Programming Paradigms

EDUCATION AND TRAINING

31/10/2019 – CURRENT București, Romania

PHD STUDENT SCOSAAR - School of Advanced Studies of the Romanian Academy

Thesis Bridging the gap between computer vision and natural language

24/09/2017 – 30/06/2019 București, Romania

MSC IN ARTIFICIAL INTELLIGENCE Politehnica University of Bucharest

30/09/2013 – 30/06/2017 București, Romania

BSC IN COMPUTER SCIENCE Politehnica University of Bucharest

- Advanced mathematics, physics
- Advanced programming (including functional, logical and parallel programming)
- Algorithms and data structures
- Operating systems

14/09/2009 – 14/06/2013 București, Romania

HIGHSCHOOL Tudor Vianu National College of Computer Science

LANGUAGE SKILLS

Mother tongue(s): **ROMANIAN**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C1	C1	C1	C1	C1

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

PUBLICATIONS

Papers

[Google scholar profile](#) - 217 citations

Masala, M., & Leordeanu, M. (2025). From Vision To Language through Graph of Events in Space and Time: An Explainable Self-supervised Approach, *arXiv preprint arXiv:2507.04815*.

Mihai

Masala, M., & Leordeanu, M. (2025). Towards Zero-Shot & Explainable Video Description by Reasoning over Graphs of Events in Space and Time. *arXiv preprint arXiv:2501.08460*.

Masala, M., Ilie-Ablachim, D. C., Dima, A., Corlatescu, D., Zavelca, M., Olaru, O., ... & Rebedea, T. (2024). " Vorbești Românește?" A Recipe to Train Powerful Romanian LLMs with English Instructions. *arXiv preprint arXiv:2406.18266*.

Masala, M., Rebedea, T., & Velicu H. (2024). Improving Legal Judgement Prediction in Romanian with Long Text Encoders. In *Proceedings of the 3rd Annual Meeting of the Special Interest Group on Under-resourced Languages @ LREC-COLING 2024*

Masala, M., Ilie-Ablachim, D. C., Corlatescu, D., Zavelca, M., Leordeanu, M., Velicu, H., ... & Rebedea, T. (2024). OpenLLM-Ro--Technical Report on Open-source Romanian LLMs trained starting from Llama 2. *arXiv preprint arXiv:2405.07703*.

Masala, M., Cudlenco, N., Rebedea, T., & Leordeanu, M. (2023). GEST: the Graph of Events in Space and Time as a Common Representation between Vision and Language. *arXiv preprint arXiv:2305.12940*.

Masala, M., Cudlenco, N., Rebedea, T., & Leordeanu, M. (2023). Explaining Vision and Language through Graphs of Events in Space and Time. In *Proceedings of the IEEE/CVF International Conference on Computer Vision* (pp. 2826-2831).

Mihai, A. C., Masala, M. D., Poncu, D. T., & Rebedea, T. E. Video Captioning using a Hybrid Transformer and RNN-based Encoder-Decoder., In *RoCHI 2022*.

Masala, M., Iacob, R. C. A., Uban, A. S., Cidota, M., Velicu, H., Rebedea, T., & Popescu, M. (2021, November). jurBERT: A Romanian BERT Model for Legal Judgement Prediction. In *Proceedings of the Natural Legal Language Processing Workshop 2021* (pp. 86-94).

Masala, M., Ruseti, S., Dascalu, M., & Dobre, C. (2021, June). Extracting and Clustering Main Ideas from Student Feedback Using Language Models. In *International Conference on Artificial Intelligence in Education* (pp. 282-292). Springer, Cham.

Masala, M., Ruseti, S., Rebedea, T., Dascalu, M., Gutu-Robu, G., & Trausan-Matu, S. (2021). Identifying the Structure of CSCL Conversations Using String Kernels. *Mathematics*, 9(24), 3330.

Masala, M., Ruseti, S., & Dascalu, M. (2020). RoBERT – A Romanian BERT Model. In *Proceedings of the 28th International Conference on Computational Linguistics*.

Masala, M., Ruseti, S., Gutu-Robu, G., Rebedea, T., Dascalu, M., & Trausan-Matu, S. (2018, September). Help Me Understand This Conversation: Methods of Identifying Implicit Links Between CSCL Contributions. In *European Conference on Technology Enhanced Learning* (pp. 482-496). Springer, Cham

Masala, M., Ruseti, S., Gutu-Robu, G., Rebedea, T., Dascalu, M., & Trausan-Matu, S. (2018, June). Identifying Implicit Links in CSCL Chats Using String Kernels and Neural Networks. In *International Conference on Artificial Intelligence in Education*(pp. 204-208). Springer, Cham

Masala, M., Ruseti, S., & Rebedea, T. (2017). Sentence selection with neural networks using string kernels. *Procedia Computer Science*, 112, 1774-1782.

● **DRIVING LICENCE**

Driving Licence: B

● **PROJECTS**

01/06/2025 – CURRENT

Romanian Hub of Artificial Intelligence (HRIA)

Research Assistant in computer vision and natural language processing, focusing on the development of visual-language models tailored for Romanian. The work involves building models capable of processing both images and videos, as well as establishing strong baselines for specialized tasks such as optical character recognition (OCR).

11/2023 – CURRENT

ELIAS - European Lighthouse of AI for Sustainability

Research assistant in the field of computer vision and natural language processing. My work is focused on long and complex video description. The main idea is to use and aggregate multiple representations (e.g. segmentation, object

detection, tracking, depth estimation, action detection) into a graph of events (in space and time). After building such a graph the next step is translating it using a rule-based system (i.e. grammar) into a proto-language, a language that is very simple yet offers a comprehensive description of the video. Finally, modern LLMs can be used to convert this proto-language into a full natural description, making it sound more natural

01/02/2024 – 31/10/2024

LLM for Romanian

Researcher in Natural Language Processing field. The goal of this project is to build a family of Romanian LLMs. We adapt existing models (e.g. Llama2, Mistral, Llama3, Gemma) to better understand Romanian and the Romanian culture. The resulting models exhibit greater performance in Romanian across a large variety of benchmarks.

08/2019 – 30/05/2023

Spacetime Vision – Towards Unsupervised Learning in the 4D World

Research assistant in the field of computer vision and natural language processing. In this project my work is focused on building and exploiting a novel graph based representation for generating text stories and videos.

Project Code: EEA-RO-NO-2018-0496

12/2016 – 12/2018

IAVPLN - Automated interpretation of Images and Videos using Natural Language Processing

Research assistant in Natural Language Processing field. In this project I developed automated methods for defining a semantic similarity metric over natural language texts. Also worked on defining, processing and interrogating ontologies based on natural language queries.

MySMIS project code: 109513

HONOURS AND AWARDS

Honours and awards

- The Grand Prize in Informatics "Grigore Constantin Moisil", awarded by the Romanian Government at Romanian Research Gala, team prize
- 2nd Place at "The Session of Scientific Communications 2017" with the paper "Sentence Selection using Neural Networks and String Kernels"
- 3rd Place at "The Session of Scientific Communications 2018" with the paper "Identifying Implicit Links Between CSCL chats using String Kernels and Neural Networks"

ABOUT ME

HUB Român de Inteligență Artificială - HRIA, Asistent Cercetare, funcția Expert Junior - Pozitia 61

SKILLS ACQUIRED IN THE WORKPLACE

Skills acquired in the workplace

- advanced understanding of Artificial Intelligence domain, with a strong focus on Deep Learning, in particular Computer Vision and Natural Language Processing
- strong capabilities for processing (e.g., text, images, videos) and analyzing data needed for machine learning pipelines
- strong capabilities of disseminating results, building graphics
- advanced knowledge of Microsoft Office platform (Word, Excel, Powerpoint, etc.) and image processing software (Adobe Photoshop)

OTHER SKILLS

Other skills

- eager to learn
- adaptable
- attention to details
- ability to meet deadlines
- written and oral communication skills

