Curriculum vitae

PERSONAL INFORMATION

Alexandra Vultureanu-Albişi

Romania, Craiova

lexandra.vultureanu@edu.ucv.ro

Gender Female | Date of birth 27th August 1995 | Nationality Romanian

WORK EXPERIENCE

2019 - Present

Teaching Assistant

Faculty of Automation, Computers and Electronics, Computer and Information Technology Department, University of Craiova, Romania

Teaching the laboratories for:

- *Applied Informatics* (Undergraduate 1st year CEN, CR) - Main topics: Introduction to Linux - The Bash Shell and Basic Scripting in Linux.
- *Computer programming* (Undergraduate 1st year CR) - Main topics: Computer programming and introduction to the C language.
- *Algorithms Design* (Undergraduate 1st year CR) - Main topics: Introduction of fundamental algorithms and fundamental methods of algorithm design using the C language.
- *Artificial Intelligence* (Undergraduate 2nd year CR) - Main topics: Using Prolog for definite clauses: syntax, semantics and reasoning, Constraint Logic Programming (CLP) for solving constraint satisfaction problems, and Python for Bayesian networks and informed, uninformed and heuristic search.

2020 - Present

Teaching Assistant

Faculty of Sciences, Computer Science Department, University of Craiova, Romania

Teaching the laboratories for:

- *Fundamentals of programming* (Undergraduate 1st year) - Main topics: Fundamental algorithms and introduction to C language.
- *WEB Technologies* (Undergraduate 2nd year) - Main topics: HTML, CSS, XML, JavaScript, PHP, Apache XAMPP.
- *Fundamentals of Databases* (Undergraduate 2nd year) - Main topics: The SQL Language, Database Design, Applications with Database Design, Microsoft SQL Server; (2020 - 2021).
- *Database Management Systems* (Undergraduate 3rd year) - Main topics: Oracle PL/SQL, Database Design, Applications with Databases design; (2020 - 2021).

Internships
May 2019

Project co-financed by the Human Capital Operational Program 2014-2020. ID PROJECT: POCU/90/6.13/6.14-106711, Craiova, Romania

Oltenia Regional Meteorological Center - Data Analysis in climatology using IDL (Interactive Data Language).

SCHOLARSHIPS

November 2019 - March 2020

QForIT - doctoral scholarship

October 2021 - 2022

Entrepreneurial doctoral and postdoctoral fellowships funded by the European Social Fund under the project with ID 123990

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EDUCATION AND TRAINING

2019 - 2025

PhD. Student at Doctoral School *Constantin Belea*, Computers and Information Technology Department, Faculty of Automation, Computers and Electronics

Thesis Title: *Explainable Context-Aware Recommender Systems using Knowledge Graphs and Reinforcement Learning* - **Graduated *summa cum laude***

Thesis Description: We introduce two distinct frameworks. The first is the TeX-$KGATRS$ framework (Trustworthy and eXplainable Knowledge Graph Recommender System enhanced by Graph Attention Networks and Scoped Rules), which leverages Machine Learning methods to model and learn the intricate relationships between job candidates and job advertisements. The second framework, denoted as XR^2K^2G (where X represents eXplainability, the first R denotes Recommender Systems, the second R indicates Reinforcement Learning, the first K refers to Knowledge Graphs, the second K corresponds to Knowledge Distillation, and G stands for Graph-based techniques), is an innovative recommender-system architecture that integrates explainability, knowledge graphs, and reinforcement learning for job recommendation tasks. The proposed framework generates transparent and concise explanatory outputs. This study details the materials and methods employed to implement the framework, including a description of the dataset and the experimental setup of the system. We also present our interpretation of the results, discuss their implications, and delineate the limitations of the study.

Supervisor: Prof. Costin Bădică, University of Craiova, Craiova, Romania

2019 - 2020

Department for Teacher Training - University of Craiova, Romania

Postgraduate Studies, Science of Education - Obtaining competences in education, teaching, methodology, educational research, elaboration of educational projects.

2017-2019

Master Degree, Computer Science, University of Craiova, Romania

Master's degree program: *Methods and Models of Artificial Intelligence*

Thesis Title: *Data Analysis in Python*

Thesis Description: Web application that implements data mining algorithms, with the ability to change the hyperparameter values that influence the accuracy of the results. The application is a comparison of the accuracy of several data mining algorithms in order to choose the best option for the data set used. The results obtained after running the algorithms can be viewed graphically. For deployment Dash, a Python framework.

Relevant Courses:

Advanced Databases, Data mining, Machine learning, Exploratory data analysis, Computer Vision, Bioinformatics, Neural and evolutionary computational models, Mathematical optimizations in Artificial Intelligence.

2014-1017

Bachelor's Degree, Faculty of Sciences, University of Craiova, Romania

Bachelor's degree program: *Computer Science*

Thesis Title: *Intelligent Terminal based on GSM Communications*

Thesis Description: The project is based on controlling a GSM module using a Raspberry Pi controller and a PiTFT touch screen to implement AT commands that have been embedded in an interface using the Pygame library, which belongs to the Python programming language. The commands used allowed us to make or receive a phone call or SMS. In addition to these commands, commands were also used to display the battery level, as well as the mobile phone operator of the SIM card inserted in the GSM module.

Relevant Courses:

Algorithms and programming, Scientific computing, Fundamental algorithms in Artificial Intelligence, Techniques of elaborating algorithms and data structures, Prediction and classification, WEB technologies, Databases, JAVA technologies, Design of operating systems.

2010-2014

High School, National College *Nicolae Titulescu*, Craiova, Romania

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Major: *Mathematics and Computer Science*
Degree: *Baccalauréat*

PERSONAL SKILLS

Mother tongue Romanian

Other languages

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B2	B2	B2	B2	B2

Levels: A1 and A2: Basic user – B1 and B2: Independent user – C1 and C2: Proficient user
Common European Framework of Reference for Languages

Digital competences

SELF-ASSESSMENT				
Information Processing	Communication	Content creation	Safety	Problem solving
Proficient user	Proficient user	Proficient user	Proficient user	Proficient user

Digital competences - Self-assessment grid

Computer skills and competences

- Operating Systems: Mac OS X, Linux, Windows
- Programming Languages: Python, C, Prolog, Matlab
- Frameworks: TensorFlow, PyTorch, Scikit-learn, XGBoost/LightGBM, Bootstrap
- Web Languages: (X)HTML, CSS, PHP, JavaScript
- Database systems: Microsoft SQL Server, Oracle
- Controllers: RaspberryPi, Arduino
- Office suites: Microsoft Office, IWork, LaTeX
- Other programs: Weka

Communication skills Very good communication skills with students obtained while teaching university laboratories

Other skills Love to read, to travel and experience different cultures.

ADDITIONAL INFORMATION

Areas of activity and research My research topics include Machine Learning, Artificial Intelligence, Recommender Systems, Reinforcement Learning, Data Mining, Deep Learning, Human-Computer-Interaction, Affective Computing.

Research groups

- Member of the research group "**Intelligent Distributed Systems**" Computer and Information Technology, University of Craiova
  http://ids.software.ucv.ro/

Projects

- **Erasmus+ Blended Intensive Program (BIP) "Remotely Operated Underwater Vehicles and Artificial Intelligence for Environmental Measurements"**, 5 - 16 May 2025 - teaching staff member.
- **Erasmus+ Blended Intensive Program (BIP) "Artificial Intelligence application for underwater object recognition"**, 1 - 13 July 2024 - teaching staff member.
- **Erasmus+ Blended Intensive Program (BIP) "Internet of Things Applications in Underwater Survey"**, 26 September - 7 October 2023 - teaching staff member.
- **Erasmus Project 2021 - 2023 -> *Bridging the Gap – An AI-enabled versatile skill matching tool to assist the less privileged***. Partner organisations - Greece, Romania and Bulgaria - member.

Awards

- *The National Student Scientific Communication Session- 13th edition* (University of Craiova, 2019)- Mention.
- *Exceptional computer science students* (University of Craiova, 2016).

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Participation at
- *Workshop - 1st Workshop on Measuring the Quality of Explanations in Recommender Systems, 15 July 2022*
- *The White Night of the Scientific Experiment* (University of Craiova, 2017).

Summer Schools
- *EUROLAN Summer School on Natural Language Processing, 2025, Timisoara - participant.*
- *Summer School organized in the framework of the Erasmus project "Applying some advanced technologies in teaching and research in relation to air pollution," no. 2021-1-RO01-KA220-HED-000030286. , 2023, University of Craiova, Romania. - speaker.*
- *MLASS Machine Learning and Applications Summer School, July 26-29, 2022 - participant.*

EDITORIAL ACTIVITIES

Reviewer
- IEEE International Conference on Systems, Man, and Cybernetics (SMC) 2025
- International Conference on INnovations in Intelligent SysTems and Applications, INISTA 2024, INISTA 2025
- International Conference on System Theory, Control and Computing (ICSTCC) 2024, 2025
- 1st Workshop on Measuring the Quality of Explanations in Recommender Systems - QUARE at International ACM SIGIR Conference on Research and Development in Information Retrieval 2022
- Behaviour & Information Technology Journal 2023-present

Technical Program Committee

- International Conference on INnovations in Intelligent SysTems and Applications (INISTA) 2024-present

- International Conference on Artificial Intelligence, Blockchain and Internet of Things (AIBThings) 2024-present

- International Conference on Computing, Intelligence and Data Analytics (ICCIDA) 2022

Local Program Committee

- International Conference on INnovations in Intelligent SysTems and Applications (INISTA) 2024

- The 10th Balkan Conference in Informatics – (BCI) 2024

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