

EDUCATION

Master of Science, University of Bucharest, Romania

October 2016 – June 2018

- Department of Artificial Intelligence
- GPA: 10/10
- 1st out of 50 students - valedictorian

Bachelor of Science, University of Bucharest, Romania

October 2013 – June 2016

- Department of Mathematics and Computer Science
- GPA: 9.97/10
- 1st out of 270 students - valedictorian

SKILLS

- Strong mathematical and algorithmic background
- Tensorflow - advanced
- Python, C/C++ - advanced
- Linux - medium
- Matlab, Haskell, OpenGL – basic
- Self-motivated and good organization
- Problem solving and teamwork skills
- Communication skills and flexibility
- Romanian - mother tongue
- English - good
- French - basic

PUBLICATIONS

- Andrei Liviu Nicolicioiu, Iulia Duta and Marius Leordeanu. "Recurrent Space-time Graph Neural Networks." *Neural Information Processing Systems Conference* (2019).
- Iulia Duta, Andrei Liviu Nicolicioiu, Simion-Vlad Bogolin and Marius Leordeanu. "Mining for meaning: from vision to language through multiple networks consensus." *The British Machine Vision Conference* (2018).

RESEARCH PROJECTS

- **Video Captioning:** We developed a model capable of describing video in natural language. We proposed several architectures to encode the video's content and introduce a novel method, based on consensus between models outputs, to extract the best description for each video, obtaining state-of-the-art results.
- **Graph-based Video Understanding:** We introduce a model for encoding and processing video information and use this representation for classification. Our model creates a graph representation of the video and process the information through message-passing between nodes both spatially and temporally, but in a factorised way.

PROJECTS

- **Deep Steganography:** Created a deep neural network to hide a secret image into a cover image such that the secret image is not visible, but could be revealed if you have the right parameters of the network

- **KCF tracker:** Implemented the Kernel Correlation Filter tracker in Python, using Numpy for Discrete Fourier Transform and other mathematical operations.
- **Computational Geometry & Computer Vision:** Created an application in C++ using OpenCV and OpenGL to reconstruct a 3D space based only on JPEG images of topographic maps. The application contains the recognition, processing and rendering parts of the process.

AWARDS

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- **ACM Southeastern European Region** Finalist (2014)
 - **ACM National** Finalist (2014 and 2015)
 - **National Olympiad in Mathematics** – one gold, one bronze and five silver medals (2007-2013)
 - selected in the **extended team of Romania** for IMO (2008)

EXPERIENCE

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- Machine Learning Researcher at Bitdefender** **November 2016 – Present**
- I am a member of Computer Vision team, working on challenging research projects involving supervised and unsupervised methods for video analysis. We combined modern and classical approaches with personal contributions, to solve current issues from this field. We work on the task of translating video in natural language using deep learning technique, motivated by the big impact of this issue on our daily life and, more recently, on a graph-based neural network model for video understanding.
- Teaching Assistant** **October 2016 – Present**
- Organize and coordinate laboratories and seminars for *Data Structure and Algorithms* course at the University of Bucharest, Department of Computer Science
- February 2019 – Present**
- Organize and teach *Deep Learning* optional course at the University of Bucharest, Department of Computer Science

TALKS AT SEMINARS

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- Computer Vision Seminar, IMAR Bucharest**
- Computer Vision Seminar is a weekly meeting, consists of students and teachers from Bucharest who present recent papers from Computer Vision field.
- Deep Learning Group, Bucharest Deep Learning**
- Bucharest Deep Learning is a group of people who practice Machine Learning in academia, industry or as a hobby, where presenters share state-of-the-art results and papers, concluded with discussions on ML topics.

MISC

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- EEML** (<https://www.eeml.eu/>) **2019**
- Teaching Assistant for Labs Session at Eastern European Machine Learning Summer School, including Computer Vision, Generative Models and Reinforcement Learning.
- Reviewer activity**
- Reviewer for top conferences including ICCV 2019, AAAI 2020.

Helper at Infoarena (<http://infoarena.ro>)

2014 – 2018

- Infoarena is a non-profit organization that helps students learn programming, computer science and develop open source projects. I am involved in areas that include organizing competitions.

Tutor

- Tutored students in mathematics courses and algorithmic concepts.