

EDUCATION

University of Bucharest, Romania

M.Sc. in Artificial Intelligence

GPA 10/10, Rank: 1/50 (*Valedictorian distinction*)

Oct. 2016 – June 2018

University of Bucharest, Romania

B.Sc. in Mathematics and Computer Science

GPA 9.97/10, Rank: 1/270 (*Valedictorian distinction*)

Oct. 2013 – June 2016

PUBLICATIONS

Recurrent Space-time Graph Neural Networks. Andrei Liviu Nicolicioiu*, **Iulia Duta*** and Marius Leordeanu.

Advances in Neural Information Processing Systems (NeurIPS 2019).

Mining for meaning: from vision to language through multiple networks consensus. Iulia Duta*, Andrei Liviu Nicolicioiu*, Simion-Vlad Bogolin and Marius Leordeanu.

The British Machine Vision Conference (BMVC 2018).

RESEARCH PROJECTS

Effective Receptive Field for Graph Neural Networks

Worked with Andrei Nicolicioiu (Under Submission)

Analysed theoretically and empirically the effective receptive field of different graph neural network such as Graph Convolutional Network and Self-Attention model.

Graph-based Video Understanding

Worked with Andrei Nicolicioiu and Marius Leordeanu

Introduced a recurrent graph neural network that process a video by message-passing between nodes both spatially and temporally, in a factorised way, used for action recognition task.

Video Captioning

Worked with Andrei Nicolicioiu and Marius Leordeanu (Master Thesis - University of Bucharest)

Developed several architectures to encode the videos content and introduce a novel method, based on consensus between models outputs, to extract the best caption for each video.

Multi-Label Classification

Worked with Andrei Nicolicioiu and Marius Leordeanu

Studied models for multi-label classification applied in video, based on the correlation between predicted labels and select the strongest cluster according to the correlation matrix.

OTHER PROJECTS

Computational Geometry & Computer Vision:

Advised by Prof. Sorin Stupariu (Bachelor Thesis - University of Bucharest)

Created an application based on classical computer vision approaches to detect and reconstruct the 3D space represented in a topographic map using only JPEG images as input.

AWARDS

Romanian Olympiad in Mathematics	gold medal	2010
	silver medal	2007, 2008, 2011, 2012, 2013
	bronze medal	2009
ACM Southeastern European Region	Finalist	2014
ACM National Contest	Finalist	2014, 2015
Extended team of Romania for International Mathematical Olympiad (IMO)		2008

EXPERIENCE

Machine Learning Researcher at Bitdefender

Nov 2016 – Present

I work on challenging research projects involving supervised methods for video analysis. We design methods to solve current issues from this field. Currently, we are interested in graph-based neural network models for video understanding.

Teaching Assistant

Oct 2016 – Present

Organize and coordinate laboratories and seminars for *Data Structure and Algorithms* course at the University of Bucharest, Department of Computer Science

Feb 2019 – Present

Natural Language Processing lecture for the *Deep Learning* optional course at the University of Bucharest, Department of Computer Science

TALKS AT SEMINARS

Computer Vision Seminar, IMAR Bucharest

Recent approaches in Graph Neural Networks

Feb 2019

Deep Learning Group, Bucharest Deep Learning

Weakly supervised approaches for Dense Captioning

Oct 2017

Conference on Recent Advances in Artificial Intelligence, University of Bucharest. (RAAI) 2019

June

Present our work on Recurrent Space-time Graph Neural Network

MISC

EEML 2019 (Eastern European Machine Learning Summer School)

June 2019

Teaching Assistant for Labs Session at Eastern European Machine Learning Summer School, including Computer Vision, Generative Models and Reinforcement Learning.

Reviewer activity

ICCV 2019, AAAI 2020, CVPR 2020, ECCV 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 was involved in areas that include organizing algorithmic competitions.

Tutor for Mathematics and Computer Science

Tutored students in mathematics courses and algorithmic concepts.

SKILLS

Strong mathematical and algorithmic background

Tensorflow - advanced

Python, C/C++ - advanced

Linux - medium

Matlab, Haskell, OpenGL - basic

Romanian - mother tongue

English - good

French - basic