

Alina-Elena BAIA

PERSONAL DATA

PLACE AND DATE OF BIRTH:	***** ** ** *
ADDRESS:	***** ** * ***** ** *
PHONE:	*** *
EMAIL:	*****

EDUCATION

PRESENT	Ph.D. student in Mathematics, Computer Science, Statistics, curriculum in Computer Science, joined programme, cycle 35th : University of Florence and University of Perugia , , Perugia
APRIL 2019	2 years Master's Degree in INTELLIGENT AND MOBILE COMPUTING 110/110 <i>with honors</i> , University of Perugia , Perugia Thesis title: "Combining Capsule Networks and Generative Adversarial Networks for image synthesis" Advisor: Valentina POGGIONI ABSTRACT: Generative Adversarial Networks (GANs) are deep neural network architectures used for generative modeling of complex data. In this thesis we design and test the performance of a Generative Adversarial Network with Capsule Networks (CapsGAN) having as a comparison baseline a classical DCGAN model.
WINTER 2016	Exchange Semester at Babes-Bolyai University within the Erasmus Exchange Programme, Cluj-Napoca, Romania Courses and exams taken: <ul style="list-style-type: none">• Computer Vision and Advanced Image Processing in Virtual Distributed Environments• Decision Support Systems• Mathematical Foundation of the Decision-Making Process• Programming Paradigms
FEBRUARY 2015	Bachelor's Degree in COMPUTER SCIENCE 110/110 <i>with honors</i> , University of Perugia , Perugia Thesis: " Algorithms and tools based on the OBDD data structure" Advisor: Raffaella GENTILINI ABSTRACT: ROBDDs (Reduced Ordered Binary Decision Diagrams, form reduced OBDD) are a data structure originally defined for the compact representation of Boolean functions. This data structure has been revealed fundamental in various areas of information technology, in particular formal verification, model checking and in general computer aided design.
JUNE 2010	Scientific High School "Galielo Galilei" , Perugia Final Grade: 100/100
JUNE 2007	High School: National Computer Science College "Grigore Moisil" , 1 st and 2 nd year, Brasov, Romania

WORK EXPERIENCE

JUNE-SEPT 2019	Post-graduate research scholarship at the MATHEMATICS AND COMPUTER SCIENCE DEPARTMENT <i>Neural Networks for Recommender System</i>
OCT - DEC 2014	Internship at the MATHEMATICS AND COMPUTER SCIENCE DEPARTMENT of University of Perugia <i>Analysis of the tools for the OBDD data structures</i> The key activities of my internship consisted in : <ul style="list-style-type: none">• analyzing various tools for OBDD visualization• identifying the main features of each tool as well as the differences between them• researching new techniques to improve OBDD visualization

PUBLICATIONS

2021	Valentina Franzoni, Baia Alina Elena, Giulio Biondi and Alfredo Milani. <i>Producing Artificial Male Voices with Maternal Features for Relaxation</i> ACER@WI2021.
2021	Baia Alina Elena, Alfredo Milani and Valentina Poggioni. <i>Combining Attack Success Rate and Detection Rate for effective Universal Adversarial Attacks</i> ESANN 2021.
2021	Baia Alina Elena, Gabriele Di Bari and Valentina Poggioni. <i>Effective Universal Unrestricted Adversarial Attacks using a MOE Approach</i> EvoApplications 2021.
2019	Alina Elena Baia, MSc Thesis, <i>Combining Capsule Networks and Generative Adversarial Networks for image synthesis</i> , University of Perugia, Italy
2018	Giulio Biondi, Alfredo Milani, Alina Elena Baia, <i>Differential Evolution of Correlation Indexes for Link Prediction</i> , in The 2018 International Conference on Computational Science and Computational Intelligence, IEEE Proceedings CPS
2015	Alina Elena Baia, BSc Thesis, <i>Algorithms and tools based on the OBDD data structure</i> , University of Perugia, Italy

AWARDS

SEPT 2014	PRIZE: 3 rd place at the Competition for a University app of the University of Perugia in collaboration with Todi Appy Days 2014
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OTHER ACTIVITIES

OCTOBER 2021	Participation at The advanced course on AI on Human Centered AI, Berlin Germany and online
JULY 2021	Participation at the Virtual International summer school on deep learning, Gdansk University of Technology, Poland, 2021 edition
JANUARY 2021	Participation at the Virtual Mediterranean Machine Learning Summer School 2021, University of Milan-Bicocca
2021	Teaching assistant for the Master's Degree course: Machine Learning , Department of Mathematics and Computer Science, University of Perugia
2021	Teaching assistant for the Bachelor Degree course : Informatica I, Programmazione II con laboratorio and Informatica II , Department of Mathematics and Computer Science, University of Perugia
2020	Teaching assistant for the Bachelor Degree course : Introduzione all'Intelligenza Artificiale (Machine Learning part) , Department of Mathematics and Computer Science, University of Perugia
AUGUST 2020	Participation at 1st AI for People Workshop
MARCH - SEPT 2020	Co-supervisor for Bachelor's Degree Thesis: Capsule Networks Knowledge Extraction through Network Visualization - Antonio Strippoli, supervisor prof. Valentina Poggioni, Department of Mathematics and Computer Science, University of Perugia
MARCH - JUNE 2020	Teaching assistant for the Bachelor Degree course : Informatica I, Programmazione II con laboratorio and Informatica II , Department of Mathematics and Computer Science, University of Perugia
MARCH - MAY 2020	Teaching assistant for the Ph.D course: Advances in Neural Networks , Department of Mathematics and Computer Science, University of Perugia

2020	Program Committee member for IWCES@2020: International Workshop on Collective Massive and Evolutionary Systems
MARCH - APRIL 2020	Teaching assistant for the Master's Degree course: Basi di dati su larga scala e data mining , Department of Mathematics and Computer Science, University of Perugia
JAN - FEB 2020	Participation at the Deep Learning for Natural Language Processing (5th edition) winter course, at the Computer Science Faculty, San Sebastian, Spain.
OCT 2019 - FEB 2020	Co-supervisor for three internships on the Recommender System project, supervisor prof. Valentina Poggioni Department of Mathematics and Computer Science, University of Perugia
SEPT 2019 - FEB 2020	Co-supervisor for Master's Degree Thesis: Dal testo all'immagine: analisi dell'architettura STACKGAN - Tommaso Giorni, supervisor prof. Valentina Poggioni, Department of Mathematics and Computer Science, University of Perugia
SEPT 2019 - FEB 2020	Co-supervisor for Master's Degree Thesis: Reti Convolutione e a Capsule per riconoscimento di post incitanti all'odio- Lorenzo Ferri, supervisor prof. Valentina Poggioni, Department of Mathematics and Computer Science, University of Perugia
NOVEMBER 2019	Participation at the Doctoral Consortium of the 18th International Conference of the Italian Association for Artificial Intelligence AIIA19, Rende, Italy.
OCTOBER 2019	Lecturer and tutorial on APP INVENTOR APPLICATION at the MATHEMATICS AND COMPUTER SCIENCE DEPARTMENT of University of Perugia for the AMAREMATICA EVENT
SEPTEMBER 2019	Staff member of the MATHEMATICS AND COMPUTER SCIENCE DEPARTMENT organizing team at the MATHEMATICS AND COMPUTER SCIENCE DEPARTMENT of University of Perugia for the SHARPER: EUROPEAN RESEARCHERS NIGHT EVENT
JULY 2018	Seminar speech and demo on DEEP LEARNING - IMAGE RECOGNITION WITH TENSORFLOW AND KERAS at the MATHEMATICS AND COMPUTER SCIENCE DEPARTMENT of University of Perugia for the HKBU-UNIPG EXCHANGE PROGRAMME
JUNE 2017	Seminar speech and demo on DEEP LEARNING - IMAGE RECOGNITION WITH TENSORFLOW at the MATHEMATICS AND COMPUTER SCIENCE DEPARTMENT of University of Perugia for the HKBU-UNIPG EXCHANGE PROGRAMME
JULY 2017	Participation at FinHack : A 36-hour FinTech hackathon in Hong Kong. The team was composed by students from University of Perugia and Hong Kong Baptist University Supervisor : Dr. Martin CHOY
JULY- AUG 2017	Participation at the INNOVATIVE SOFTWARE DEVELOPMENT WORKSHOP during the HKBU-UNIPG EXCHANGE PROGRAMME at the Department of COMPUTER SCIENCE of Hong Kong Baptist University
JULY- AUG 2016	Participation at the MOBILE APPLICATION WORKSHOP during the HKBU-UNIPG EXCHANGE PROGRAMME at the Department of COMPUTER SCIENCE of Hong Kong Baptist University

SOME ACADEMIC PROJECTS

- "Combining Capsule Networks and Generative Adversarial Networks for image synthesis", Master's Degree Thesis
- "Algorithms and tools based on the OBDD data structure", Bachelor's Degree Thesis
- GAN in 60 minutes
 - implementation of a Generative Adversarial Network for image generation
 - Course: Large-scale databases and data mining, UNIVERSITY OF PERUGIA
- Image Recognition with Convolutional Neural Networks
 - development of a system for image recognition based on the Convolutional Neural Networks using Python, TensorFlow and the COIL data set
 - Course: Computer Vision and Advanced Image Processing in Virtual Distributed Environments, BABES-BOLYAI UNIVERSITY
- Blockchain chatbot
 - software development of a chatbot for blockchain information access using api.ai and Python, during the HKBU-UNIPG SUMMER EXCHANGE PROGRAMME in Hong Kong at the HONG KONG BAPTIST UNIVERSITY
- L-game
 - development of an intelligent system based on L-game using JavaScript
 - Course: Interactive intelligent devices, systems and environments, UNIVERSITY OF PERUGIA

LANGUAGES

ROMANIAN: Native language
ITALIAN: Second language
ENGLISH: Advanced user (IELTS overall band score: 7.5)
SPANISH: Basic knowledge

COMPUTER SKILLS

Programming Languages:	Basic knowledge of JAVASCRIPT, JAVA, POSTGRESQL, C++, C#, Intermediate knowledge of PYTHON
Operations systems:	Basic knowledge of Linux Intermediate knowledge of Windows
Frameworks & libraries:	TENSORFLOW, KERAS, OPENCL
Text editors & IDE:	Visual Studio Code, SublimeText, Microsoft Visual Studio, NetBeans, Android Studio
Web Design:	HTML, CSS, BOOTSTRAP
Standard productivity tools :	L ^A T _E X, PowerPoint, Word, Excel

OTHER SKILLS

- Strong verbal and written communication skills as demonstrated when delivering presentations and reports in an academic context but also as a result of the international experiences.
- Focused, detailed oriented, persistent, flexible, able to adapt effectively to challenging and emergency situations in order to ensure the best outcome for the assigned projects and tasks.
- Proven adaptability to differing cultural environments thanks to the multicultural upbringing and participation to several exchange programs in Europe and overseas
- High sense of responsibility, willingness to learn and hard working person with problem solving capabilities
- Ability to take constructive criticism in a positive manner

- Time management and organizational skills due to a series of coursework deadlines and exams.

HOBBIES

Photography · Videogames · Anime · Traveling · Jigsaw Puzzles