

Elena Burceanu

Personal Data

Date of birth	1st February 1988
Nationality	Romanian
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Education

Oct. 2016–present	PhD student, Faculty of Mathematics and Computer Science, University of Bucharest, Romania in collaboration with the Simion Stoilow Institute of Mathematics of the Romanian Academy (IMAR) working on unsupervised video understanding, more specific on <i>Unsupervised tracking of complex objects in video</i> , under the direction of Marius Leordeanu
2011–2013	MSc in Parallel and Distributed Computer Systems, Faculty of Automatic Control and Computer Science, Politehnica University of Bucharest , 9.67/10
2007–2011	BSc in Computer Science and Engineering, Faculty of Automatic Control and Computer Science, Politehnica University of Bucharest , 9.32/10, with main interest in Operating Systems, Compilers Design and Artificial Intelligence related courses
2004–2007	Mircea cel Batran National College, Constanta, Romania Contests and Olympiads: Math and Physics (national, international phases)

Internships

May 2012–Jul. 2012	Internship Student at Kerdata team at Inria, Rennes, France During my MSc in Parallel and Distributed Computer Systems, I build on top of Blobseer (a file system built by Kerdata team for large scale distributed storage services) a layer that provides an interface over BlobSeer file system for context-aware data-intensive applications. It assures user's mobility and provisioning of data according to his locality; real-time guarantees for data provisioning; allow efficient access to the data in terms of speed of access, as well as support for complex queries; discovery and registration of data sources and access to data using different granularities; and scalability.
Jun. 2011–Aug. 2011	Google Summer of Code Student at OpenIntents.org During the summer, Google was offering scholarships for students to work at proposed projects inside open source communities. There was contests both for the communities and for the students. My projects involved adding support for more sensors in the Sensor Simulator for Android, that simulates sensor input without the need of a physical android device (at the time, there were very few devices with advanced sensor capabilities).

Awards

2018	Best poster award at Transylvanian Machine Learning Summer School
2002–2007	Awards at various regional, national and international Mathematics and Physics competitions
2004–2007	Participation at National Mathematical Olympiad in all high-school years (with 3 bronze medals awards)
2003	Mention at National Physics Olympiad
2003	Valedictorian at Theoretical High-School "Ovidius", Constanta, Romania, special class for middle school

Professional Experience

Sep. 2014–present	Machine Learning Researcher, Team Lead Our team is responsible with keeping up with the latest machine learning technologies and applying them in the security context, building proof of concepts and giving machine learning training and advises inside company. I work in unsupervised video understanding, as part of a proof of concept project that monitors a room with a camera. My contribution is on the tracking component, which is also my PhD subject and captures my full focus.
Dec. 2013–Jul.2014	<i>Warbles radio startup</i> - a mobile app for recommending custom radio stations based on the user history and the current program.
Dec. 2013–Jul.2014	<i>IUR startup</i> - a service for venues that allows venues to acquire/profile/loyalize customers and clients to fast order from an mobile app instead of the waiter.
Oct.2011–Sep. 2014	iOS and OSX Prototyping Developer, Bitdefender, Romania <i>Clueful</i> , frontend and backend dev: built a system that detects and analyzes your installed apps both static and dynamic, in order to know what sensitive (privacy related) data the app is using. <i>Smart Battery</i> , frontend and backend dev: complex machine learning heuristics for determining which apps are using more battery, based on each user behaviour (this was particularly hard for iOS, due to major restrictions that Apple imposes on gathering OS, user and apps information through code, out of the device). Other proof of concept security related apps: VPN, MDM. <i>Antivirus for Mac</i> : contributed to OSX solution from Bitdefender, building a scanning cache system (based on OSX file system particularities), address and solve performance problems.
Jul.2009–Dec.2011	Android Developer, Freelancer I have worked remotely on prototyping very original ideas, as Android was in its very early ages (starting with 1.5 API version). I worked on projects from Japan, Sweden, Ireland, France.

Technical Skills

Programming and
Technologies

Python Pytorch, C Linux and Windows, Objective-C iOS/OSX, Java Android

Publications

- [1] *SFTrack++: A Fast Learnable Spectral Segmentation Approach for Space-Time Consistent Tracking*, accepted at NeurIPS2020, Pre-registration Workshop
- [2] *A 3D Convolutional Approach to Spectral Object Segmentation in Space and Time*, with Marius Leordeanu, accepted at IJCAI2020
- [3] *Learning a Robust Society of Tracking Parts using Co-occurrence Constraints*, with Marius Leordeanu, published at ECCV2018 Visual Object Tracking workshop
- [4] *Learning a Robust Society of Tracking Parts*, with Marius Leordeanu, published on arxiv.org

Talks at Seminars/Workshops/Summer Schools

Jan. 2020	Teaching an <i>Intro to Deep Learning Course for Product Managers</i> , Bitdefender, Romania
May.–Aug. 2019	Teaching a <i>Deep Learning Course for engineers</i> , Bitdefender, Romania
Feb.–Jun. 2019/2020	Teaching a <i>Deep Learning Course</i> , University of Bucharest, Romania
Feb. 2019	<i>Video Understanding in Bitdefender Computer Vision Lab</i> , Timisoara Machine Learning Workshop 2019 workshop, Romania
Jun. 2017	<i>Learning a Robust Society of Tracking Parts</i> , RAAI 2017 workshop, University of Bucharest, Romania
Aug. 2016–present	Presentations on several themes: <i>adversarial examples, problems that arise in neural networks non-convex optimization, unsupervised tracking, current tracking solutions and datasets</i> , at Computer Vision Seminar, IMAR
Oct. 2015–present	Presentations on several themes: <i>AlphaGo, the landscape of the cost function in a neural network</i> , at Bucharest Deep Learning Meetup
Jun.–Jul. 2010	Android trainer at ROSEdu Summer of Code

Organization of Scientific Events

Jul. 2020	Teaching Assistant at Virtual EEML2020 Summer School
Jul. 2019	Local Organizer of <i>Eastern European Machine Learning Summer School</i> <ul style="list-style-type: none">- One week with 250 students participants and top research speakers, eeml.eu- Co-organizer with Traian Rebedea, Marius Leordeanu and DeepMind team
Oct. 2015–present	Bucharest Deep Learning Meetup (with Tudor Berariu and Traian Rebedea)
Jul. 2018–present	Statistics Seminar, Bitdefender
Jul. 2017–2018	Linear Algebra Seminar, IMAR