

# CURRICULUM VITAE

**Elena Burceanu**

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EDUCATION	Oct. 2016–present	<b>PhD student, Faculty of Mathematics and Computer Science, University of Bucharest, Romania</b> working on Object consistency in Video for Segmentation and Tracking tasks, under Marius Leordeanu and Gheorghe Stefanescu supervision
	2011–2013	<b>MSc in Parallel and Distributed Computer Systems, Faculty of Automatic Control and Computer Science, Politehnica University of Bucharest, 9.67/10</b>
	2007–2011	<b>BSc in Computer Science and Engineering, Faculty of Automatic Control and Computer Science, Politehnica University of Bucharest, 9.32/10</b> , with the main interest in Operating Systems, Compilers Design, and Artificial Intelligence related courses
	2004–2007	<b>Mircea cel Batran National College, Constanta, Romania</b> Math and Physics contests and olympiads, national, and international phases
INTERNSHIPS	summer 2012	<b>Internship Student at Inria, Rennes, France</b> I build on top of Blobseer (a file system for large scale distributed storage services) a scalable layer for context-aware data-intensive applications. It enables mobility and provisioning of data according to user location in real-time, discovery and registration of data sources, efficient data access at different granularities, and support for complex queries.
	summer 2011	<b>Google Summer of Code Student at OpenIntents.org</b> My project 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 few devices with advanced sensor capabilities and the simulator was intensively used by developers).

## PROFESSIONAL EXPERIENCE

Sep. 2014–	<b>Machine Learning Researcher, Team Lead</b> Our team reaches for top research and conferences, making a name for Bitdefender and Romania on the world map of AI. We give machine learning training and advice inside the company. I work in unsupervised video understanding, specifically on single object tracking and segmentation, which is also my PhD subject and captures my full focus.
Dec. 2013–Jul. 2014	<i>Warbles radio startup</i> - an 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 them to acquire/profile/loyalize customers and clients to fast order from a mobile app instead of the waiter, based on bluetooth beacons for indoor localization, a recent technology for those days.
2011–2014	<b>iOS and OSX Prototyping Developer, Bitdefender, Romania</b> <i>Clueful</i> : built a system that detects and analyzes your installed apps both statically and dynamically, to find sensitive data (privacy related) used by the app. <i>Smart Battery</i> : 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). 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), and addressing performance issues.
2009–2011	<b>Android Developer, Freelancer</b> I have worked remotely on prototyping very original ideas, as Android was in its very early ages (starting with the 1.5 API version). I worked on projects from Japan, Sweden, Ireland, France.

PUBLICATIONS	[1]	<i>Learning a Robust Society of Tracking Parts</i> , with Marius Leordeanu, <b>RAAI2018 workshop</b>
	[2]	<i>Learning a Robust Society of Tracking Parts using Co-occurrence Constraints</i> , with Marius Leordeanu, <b>ECCV2018 Visual Object Tracking workshop</b>
	[3]	<i>A 3D Convolutional Approach to Spectral Object Segmentation in Space and Time</i> , with Marius Leordeanu, <b>IJCAI2020</b>
	[4]	<i>SFTrack++: A Fast Learnable Spectral Segmentation Approach for Space-Time Consistent Tracking</i> , <b>NeurIPS2020, Pre-registration workshop</b> and <b>PMLR journal</b>
	[5]	<i>DATE: Detecting Anomalies in Text via Self-Supervision of Transformers</i> , with Andrei Manolache and Florin Brad, <b>NAACL2021</b> and <b>ICML2021, Unsupervised Deep Learning workshop</b>
	[6]	<i>Systems And Methods For Translating Natural Language Sentences Into Database Queries</i> , with Florin Brad, Traian Rebedea, <b>US and UE Patent2018</b>
FOUNDED PROJECTS	UEFISCDI 2020-2022	Principal Investigator, Author Identification, using Web and DarkWeb Text Correlation, for increasing Cybersecurity, Bitdefender and University of Bucharest (Marius Popescu)
	UEFISCDI 2016-2018	Principal Investigator, Querying Databases in Natural Language Using Deep Learning, Bitdefender and Politehnica University of Bucharest (Traian Rebedea)
AWARDS	2017-2020	PhD Scholarship from AUF (Agence Universitaire de la Francophonie)
	2018	Best poster: 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 2003	Mention at National Physics Olympiad Valedictorian at Theoretical High-School "Ovidius", Constanta, Romania, special class for middle school

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TALKS	Jan. 2020	Video Object Segmentation over Space-time, Bitdefender Tech-Days
	Jan. 2020	Teaching <i>Deep Learning for Product Managers</i> , Bitdefender
	May.–Aug. 2019	Teaching <i>Deep Learning Course for engineers</i> , Bitdefender
	2019/2020/2021	Teaching <i>Deep Learning Course</i> , University of Bucharest
	Feb. 2019	<i>Video Understanding in Bitdefender Computer Vision Lab</i> , Timisoara Machine Learning Workshop 2019, 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 summer 2010	Presentations on several themes: <i>AlphaGo, the landscape of the cost function, tracking</i> , at Bucharest Deep Learning Meetup Android trainer at ROSEdu Summer of Code
OTHER SCIENTIFIC ACTIVITIES	2019–	Reviewer at top AI conferences: ICML, NeurIPS, CVPR, ICCV, ICLR, AAAI
	Jul. 2020	Teaching Assistant at Virtual EEML2020 Summer School
	Jul. 2019	<i>EEML2019 Summer School</i> - one week, 250 students and top researchers, eeml.eu - local co-organizers: me, Traian Rebedea, Marius Leordeanu - organizers: Viorica Patraucean, Razvan Pascanu, Doina Precup
	Oct. 2015–	Bucharest Deep Learning Meetup - organizers: me, Traian Rebedea, Tudor Berariu
	Jul. 2018–	Reading Group, IMAR and Bitdefender
	Jul. 2017–2019	Statistics/Linear Algebra Seminar, IMAR