

ANDRA BĂLTOIU

born 1985

Bucharest, Romania

## EDUCATION

PhD student, 2016 – present

Faculty of Automatic Control and Computers, University Politehnica of Bucharest

Master's degree in Systems Engineering – 2015

Faculty of Automatic Control and Computers, University Politehnica of Bucharest

Bachelor's degree in Systems Engineering – 2004 – 2006, 2010 – 2013

Faculty of Automatic Control and Computers, University Politehnica of Bucharest

## EXPERIENCE

Research Assistant, 2018 – present

Center for Logic, Optimization and Security, University of Bucharest

The Research Institute of the University of Bucharest (ICUB)

Research Scientist, 2014 – 2017

Institute of Space Science

Research Scientist, 2013 – 2017

National Institute for Sport Research

Strategic Planner, 2007

Starcom - Leo Burnett

## TEACHING

Teaching Assistant

*Numerical Methods*, 2016 – present

*Actuations*, 2021

Faculty of Automatic Control and Computers, University Politehnica of Bucharest

Teaching Assistant

*Numerical Computing*, 2021 - present

*Signal Processing*, 2020 – present

*Using Operating Systems*, 2017 – 2019, 2021 - present

Faculty of Mathematics and Computer Science, University of Bucharest

## RESEARCH PROJECTS

Research Assistant, "*Graphomaly - software library for anomaly detection in graphs modeling financial transactions*", University of Bucharest, 287PED2020 project, 2020 - present

Research Assistant, "*Advanced security mechanisms for autonomous systems - MASSA*", University of Bucharest, 2020 - present

Research Assistant, "*Innovation hub for advanced cyber-security technologies - ATLAS*", University of Bucharest, 2018-2020

Research Scientist, "*Extensive use of space experience in space and security activities - VESS*", Institute of Space Science, 2017-2019

Research Assistant, "*Computer assisted and information feedback training for human spaceflight support - STARWALKER*", Institute of Space Science, Romanian Space Agency, 2013-2016

## PUBLICATIONS

### Book Chapters

- [1] P. Irofti, A. Patrascu and A. Băltoiu, "Fraud Detection in Networks", in Hassanien et al (eds.): *Enabling AI Applications in Data Science*, Springer, 2020
- [2] Andra Băltoiu, Cătălin Buiu, "Representing emotions as dynamic interactions of symbols. A case study on literary texts", in Jordi Vallverdú (ed.): *Synthesizing Human Emotion in Intelligent Systems and Robotics*, UAB, 2014

### Journals

- [1] A. Băltoiu and B. Dumitrescu, "Sparse Bayesian Learning Algorithm for Separable Dictionaries", *Digital Signal Processing*, Vol 111, 2021

### Conferences

- [1] A. Băltoiu, A. Pătrașcu and P. Irofti, "Graph Anomaly Detection using Dictionary Learning", *International Federation of Automatic Control (IFAC)*, 2020
- [2] P. Irofti and A. Băltoiu, "Unsupervised Dictionary Learning for Anomaly Detection", *international Traveling Workshop on Interactions between low-complexity data models and Sensing Techniques*, 2020
- [3] P. Irofti and A. Băltoiu, "Malware Identification with Dictionary Learning", *27th European Signal Processing Conference (EUSIPCO)*, pages 1-5, IEEE, 2019
- [4] A. Băltoiu and B. Dumitrescu, "Size Adaptation of Separable Dictionary Learning with Information-Theoretic Criteria", *22th International Conference on Control Systems and Computer Science*, 2019
- [5] A. Dinculescu, A. Băltoiu, C.Strungaru, L. Petrescu, C.Vizitiu, A. Mandu, V. Valeanu, "Automatic Identification of Anthropological Face Landmarks for Emotion Detection", *9th International Conference on Recent Advances in Space Technologies (RAST)*, pages 585-59, 2019
- [6] A. Băltoiu, L.Petrica, A. Dinculescu, C. Vizitiu, *Framework for an Embedded Emotion Assessment System for Space Science Applications*, *6th IEEE International Conference on E-Health and Bioengineering*, 2017
- [7] A.Nistorescu, P. Hillerin, A. Băltoiu, C. Marin, *Case Study on Muscular Response to Pulse Mechanical Stimulation after Immobilization*, *6th IEEE International Conference on E-Health and Bioengineering*, 2017
- [8] A. Dragomir, A. Băltoiu, P. Hillerin, "Proposal for a rate of force development (RFD) assessment methodology in dynamic conditions testing, with application in Judo.", 2016
- [9] A. Dragomir, A. Băltoiu, "On the particularities of dynamic muscle force development in different judo throwing techniques. A case study." *Physical Education, Sport and Health*, *9th Annual International Conference*, 2016

- [10] P. Hillerin, A. Băltoiu, C. Botezatu, C. Ciurea, A. Nistorescu, V. Văleanu - "Preliminary study of the mechanical properties of striated muscle in humans", International Conference of Human Movement Sciences (ICHMS), 2015
- [11] A. Băltoiu, P. Hillerin, A. Nistorescu, M. Vasiliu, V. Văleanu, T. Ion, C. Marin, "Preliminary qualitative analysis of mechanical impulse propagation dynamics in human striated muscle", EHB 2015 – IEEE International Conference on E-Health and Bioengineering, 2015
- [12] A. Dragomir, A. Băltoiu, "On the compensation phenomenon in muscle activation during a neuromuscular control exercise in swimming - A case study", Physical Education, Sport and Health, 8th Annual International Conference, 2015
- [13] V. Lungu, A. Băltoiu, Ș. Radu – "Using Emotion as Motivation in the Newtonian Emotion System", Intelligent Distributed Computing VII, Proceedings of the 7th International Symposium on Intelligent Distributed Computing, Springer, 2013