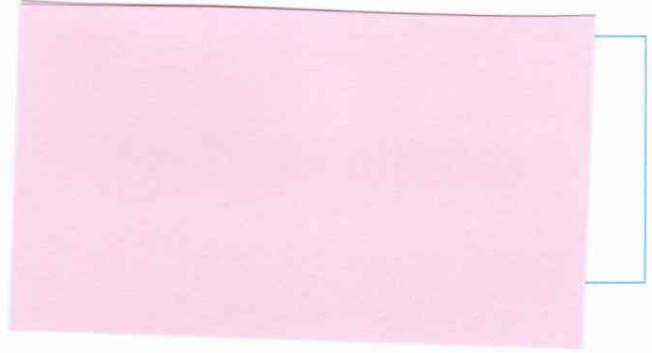


Mircea Șușcă

Curriculum Vitae



Personal Information

Born August 5th, 1994 brainmap.ro mircea-susca
Sex Male
Nationality Romanian Researcher ID AAE-5229-2019

Computer Skills

Languages MATLAB/Simulink, Python, Embedded/ISO C, L^AT_EX, Java, C++, LabVIEW, C#, ASM
Platforms Linux, Windows, Mac OS
Tools PyCharm IDE, GNU Emacs, Siemens SIMATIC Step 7 and TIA Portal, Texas Instruments Code Composer Studio, Visual Studio, Eclipse IDE, Renesas HEW, Office Suite

Work Experience

- Oct. 2017 – **Teaching Assistant**, *Technical University of Cluj-Napoca, Romania, Faculty of Automation and Computer Science, Automation Department.*
- System Theory I – 2nd year
 - System Theory II – 3rd year
 - System Identification – 3rd year
 - Electric and Electronic Control Equipment – 3rd year
 - Continuous Plant Control – 4th year
- Jan. 2018 – **Deep Learning Engineer**, *Devtel Software House, Cluj-Napoca, Romania.*
- Present Developing and implementing embedded applications using machine learning, deep learning and statistical models for signal processing, including text and speech data. Projects include named-entity recognition, monaural source separation, and text-to-speech generation models used for in-car multimedia applications, ball bearing defect and CNC chattering detection using vibration sensors (collaboration with IFM) and order partitioning for billets cutting loss optimization (collaboration with Tenaris Silcotub).
- Jan. 2016– **Machine Learning Developer**, *Emerson S.R.L. – Ridge Tool, Cluj-Napoca, Romania.*
- Dec. 2017 Research and develop information systems that have algorithms and machine learning models, systems used for a better knowledge and prediction of the market and the company's clients, and improve existing products. Creating a system for data deduplication using machine learning and fuzzy logic algorithms. Spectral analysis of tool data used in predictive maintenance.
- July 2015– **Assistant programmer**, *Continental Automotive S.R.L., Timișoara, Romania.*
- Sept. 2015 Design, implementation, debugging, and optimizing of software on embedded microprocessors using C/C++ and Qt Framework. Ability to obtain a completely functional and modular digital instrument cluster written with MVC (OOP) design principle in mind, in a short period of time, and with no prior experience with the considered framework.

Research

- 2020 **M. Șușcă, V. Mihaly, M. Stăneșe, P. Dobra**, *Iterative Refinement Procedure for Solutions to Algebraic Riccati Equations*, 2020 IEEE Int. Conf. on Automation, Quality and Testing, Robotics (AQTR), THETA, 21–23 May, 2020, Cluj-Napoca, Romania [ISI].

- 2020 **V. Mihaly, M. Stănese, M. Şuşcă, P. Dobra**, *Interior Point Methods for Renewable Energy Management*, 2020 IEEE International Conference on Automation, Quality and Testing, Robotics (AQTR), THETA, 21–23 May, 2020, Cluj-Napoca, Romania [ISI].
- 2020 **M. Stănese, M. Şuşcă, V. Mihaly, I. Naşcu**, *Design and Control of a Self-Balancing Robot*, 2020 IEEE International Conference on Automation, Quality and Testing, Robotics (AQTR), THETA, 21–23 May, 2020, Cluj-Napoca, Romania [ISI].
- 2019 **M. Şuşcă**, *Solving Algebraic Riccati Equations Using Proper Deflating Subspaces for H_2/H_∞ Synthesis*, **Master Thesis**, Implementation of a numerically stable set of algorithms for computing proper deflating subspaces for arbitrary matrix pencils, the stabilizing solution and feedback matrices of continuous-time and discrete-time algebraic Riccati equations and their applications to Optimal and Robust Control Theory.
- 2019 **V. Mihaly, M. Şuşcă, P. Dobra**, *Passivity-Based Controller for Nonideal DC-to-DC Boost Converter*, The 22nd International Conference on Control Systems and Computer Science, May 28–30 2019, Bucharest, Romania [ISI].
- 2018 **M. Şuşcă et al.**, *General-Purpose Model of a Three-Phase Asynchronous Machine for Simulation*, 2018 IEEE International Conference on Automation, Quality and Testing, Robotics (AQTR), 24–26 May 2018, Cluj-Napoca, Romania [ISI].
- 2018 **E.H. Dulf, M. Şuşcă, L. Kovács**, *Novel Optimum Magnitude Based Fractional Order Controller Design Method*, 3rd IFAC Conf. on Advances in Proportional-Integral-Derivative Control 2018, Vol. 51, Issue 46, pp. 912–917, May 09, 2018, Ghent, Belgium [ISI].
- 2017 **M. Şuşcă**, *Control Algorithms Implementation using RCP Technology*, **Bachelor Thesis**, Implementation of a Computed-Aided Control System Design Toolbox for Renesas M32C87 target processors in MATLAB/Simulink with Real-Time Workshop.
- 2016 **M. Şuşcă, P. Dobra**, *Notch Filter Sensitivity Analysis with Root Locus Considering Parameter Uncertainty*, 20th International Conference on System Theory, Control and Computing (ICSTCC), Joint Conference, 13–15 October 2016, Sinaia, Romania [ISI].

Education

- 2019 – 2022 **PhD Degree in System Engineering**, *Robust Control Techniques for Hybrid Systems*, (expected) *Technical University of Cluj-Napoca*, Cluj-Napoca, Romania.
- 2017 – 2019 **Master's Degree in Advanced Process Control – Valedictorian**, *Technical University of Cluj-Napoca*, Cluj-Napoca, Romania.
2 year course, Automation and Control Systems Engineering (ISCED 7). Weighted average mark: 10
- 2013 – 2017 **Bachelor of Systems Engineering – Valedictorian**, *Automation and Computer Science Faculty*, *Technical University of Cluj-Napoca*, Romania.
4 year course, Automation and Control Systems Engineering (ISCED 6). Weighted average mark: 9.93
- 2009 – 2013 **Mathematics and Computer Science high school diploma**, "Andrei Bârseanu" *Theoretical High School*, Târnăveni, Mureş County, Romania, ISCED 3.

Awards

- 2015 **Bronze Medal**, *SEEMOUS – South Eastern European Mathematical Olympiad for University Students*, Ohrid, Macedonia.
- 2014 **Gold Medal**, *SEEMOUS – South Eastern European Mathematical Olympiad for University Students*, Iaşi, Romania.
- 2014 **Gold Medal, First prize**, "Traian Lalescu" *National Mathematical Competition for University Students*, Timişoara, Romania.

Cluj-Napoca
08/10/2020

I hereby certify that the above statements are true.
Mircea Şuşcă.