THALES COSTA SILVA

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Graduate Program in Electrical Engineering   Universidade Federal de Minas Gerais
Engineering School   Belo Horizonte, Brasil - 31270-901

EDUCATION

Universidade Federal de Minas Gerais   expected May 2021
Ph.D. Candidate, Electrical Engineering
Thesis: "Analysis and Design of Distributed Protocols for Multi-Agent Systems
Subject to Input Saturation and Time-Varying Delays"

Universidade Federal de Minas Gerais   Apr. 2019
M.Sc., Electrical Engineering
Dissertation: "Consensus in Multi-Agent Systems with Input Saturation and
Time-Varying Delays"

Universidade Federal do Tocantins   Jan. 2017
B.Eng., Electrical Engineering, with High Honors (average 9.3/10)

RESEARCH EXPERIENCE

Graduate Researcher   Aug. 2017-present
Universidade Federal de Minas Gerais
Elaborated methods to study the stability and to design controller gains of
multi-agent systems subject to time-delays and input saturation.

> Developed a model-independent control strategy for networked Euler-
> Lagrange systems attain the formation-containment, with networks subject
> to communication time-varying delays and input saturation.

> Formulated new approaches for the study of local stability and synthesis of
> gains for multi-agent systems with direct communication graph, in the contin-
> uous and in the discrete-time domain, with linear agents subject to saturating
> inputs and time-varying delays.

Undergraduate Researcher   Jan. 2014-Dec. 2016
Universidade Federal do Tocantins

> Designed, implemented, and experimentally evaluated microwave band-pass
> filters in parallel-coupled transmission lines. By using partly electric and
> partly magnetic coupling between resonators, it was provided advantages such
> as smaller filters, larger gaps between resonators, and symmetric loss curve.

> Researched and implemented new auxiliary methods to design electrical trans-
> formers, directly taking into account operational losses.

TEACHING EXPERIENCE

Universidade Federal de Minas Gerais
Teaching Assistant, Digital Systems Design and   1st and 2nd semester of 2020
Practice

Universidade Federal do Tocantins
Teaching Assistant, Principles of Electromagnetism   1st semester of 2016
Teaching Assistant, Differential Calculus   2nd semester of 2015
Teaching Assistant, Linear Algebra   1st semester of 2015

RESEARCH AND TEACHING INTERESTS

Multi-Agent Systems	Delayed Systems	Nonlinear Systems
Control Theory	Robust Control	Automation & Robotics

SCHOLARSHIPS

Coordination for the Improvement of Higher Education Personnel (CAPES) 2017-present
National Fund for the Development of Education (FNDE) 2014-2016
Undergraduate Teaching Assistant Scholarship 2015-2016

WORKS IN PROGRESS

Silva, T. C., Leite, V. J. S., Souza, F. O., & Pimenta, L. C. A. Regional Consensus in Discrete-Time Multi-Agent Systems Subject to Saturating Inputs and Time-Varying Delays. Manuscript in Preparation.

PEER REVIEWED PUBLICATIONS

Silva, T. C., Souza, F. O., & Pimenta, L. C. A. (2020). Consensus in Multi-Agent Systems Subject to Input Saturation and Time-Varying Delays. International Journal of Systems Science, DOI: 10.1080/00207721.2020.1860267.

Silva, T. C., Souza, F. O., & Pimenta, L. C. A. (2020). Distributed formation-containment control with Euler-Lagrange systems subject to input saturation and communication delays. International Journal of Robust and Nonlinear Control, 30(7), 2999-3022. DOI: 10.1002/rnc.4919.

Silva, T. C., Souza, F. O., & Pimenta, L. C. A. (2018). *Consenso em sistemas multiagentes sujeitos a saturação e atrasos variantes no tempo.* Anais do XXII Congresso Brasileiro de Automação, 1-8. (Published in Portuguese.)

Freitas, S. C. L., **Silva, T. C.**, Silva, G. C., Martins, R., Rezende, R. R., Oliveira, P. S. (2015). *Estratégia para Incremento da Aprendizagem e do Conteúdo Ministrado na Disciplina Conversão de Energia.* Revista SODEBRAS, v. 10, p. 339-344. (Published in Portuguese.)

CONFERENCE PRESENTATIONS AND PUBLICATIONS

Silva, T. C., Souza, F. O., & Pimenta, L. C. A. (2018). *Consenso em sistemas multiagentes sujeitos a saturação e atrasos variantes no tempo.* Oral presentation delivered at the Congresso Brasileiro de Automação, 1-8.

Freias, S. C. L., Silva, J. C., **Silva, T. C.** (2015). A New Contribution to the Calculation of Losses in Transformers in Function of Magnetic Flux Density. Oral presentation delivered at the XI Latin American Congress on Electricity Generation and Transmission, 2015, Guaratinguetá. Proceedings and Book of Abstracts of The 11 th Latin-American Congress on Electricity Generation and Transmission - CLAGTEE2015. p. 176-176. ISBN: 978-85-61065-02-7

Silva, T. C., Freitas, S. C. L., Oliveira, P. S., Torres, P. R.(2015) *Aplicativo para dispositivos móveis como ferramenta educacional auxiliar ao projeto de transformadores monofásicos e trifásicos.* Oral presentation delivered at the XI Latin American Congress on Electricity Generation and Transmission, 2015, Guaratinguetá. Proceedings and Book of Abstracts of The 11 th Latin-American Congress on Electricity Generation and Transmission - CLAGTEE2015, p. 176-177. ISBN: 978-85-61065-02-7 (Published in Portuguese.)

LANGUAGES
Portuguese First Language
English Advanced (*Score TOEFL iBT 102/120*)

PROGRAMMING LANGUAGES
MATLAB
Python
C++

REFERENCES

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