

Otacílio B. L. Neto

MASTER'S STUDENT IN PATTERN RECOGNITION AND DYNAMICAL SYSTEMS

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Education

Federal University of Ceará – UFC/PPGETI

(IN PROGRESS) MASTER OF SCIENCE (M.Sc) – PATTERN RECOGNITION AND DYNAMICAL SYSTEMS

Fortaleza-CE, Brazil

Aug. 2019 - (expected) Apr. 2021

- Under the supervision of Prof. Dr. Francesco Corona and co-supervision of Prof. Dr. Michela Mulas.
- Researching on optimal decision-making for complex systems.

Federal University of Ceará – UFC/DETI

BACHELOR OF ENGINEERING (B.Eng) – COMPUTER ENGINEERING (GPA: 9.06/10)

Fortaleza-CE, Brazil

Feb. 2016 - Jul. 2019

- Thesis "Optimal Control: An application to a non-isothermal continuous reactor".

University of Fortaleza – UNIFOR

BACHELOR OF ENGINEERING (B.Eng) – COMPUTER ENGINEERING

Fortaleza-CE, Brazil

Feb. 2014 - (transferred) Jan. 2016

Academic Experience

Control4Reuse – Water JPI Joint Call "Process Control Technologies for Water Reuse"

International

RESEARCHER (WORK-PACKAGE 2, OPTIMAL CONTROL AND ESTIMATION)

Aug. 2019 - Current

- Research and development of technologies for managing water resources, with focus on the reuse of wastewater in specific agricultural and industrial sectors. The scope of the project is based on a system monitoring and control framework, with specific activities of monitoring and integrating sensor information/data, mathematical modelling of processes and designing advanced control strategies.

Insight Data Science Lab – UFC/DC

UNDERGRADUATE RESEARCHER (INTERN)

Fortaleza-CE, Brazil

Feb. 2018 - Jan. 2019

- Worked on ontological modelling and database integration, and researched on semantic compression method for large-scales databases.
- Member of the project "Scientific and Technological Intelligence for Public Security" (FUNCAP).
- Member of the project "Ontology for the Geological Data Generated from E&P Wells" (FCPC).

PET Computação – UFC/DC

INSTITUTIONAL MEMBER

Fortaleza-CE, Brazil

Aug. 2016 - Feb. 2018

- Coordinated several institutional study groups and teaching activities.

Teaching Experience

2019 **Federal University of Ceará**, Teaching Assistant for the course "TI0118 - Introduction to Control Systems"

Fortaleza-CE, Brazil

2015 **University of Fortaleza**, Teaching Assistant for the course "T922 - Object Oriented Programming"

Fortaleza-CE, Brazil

Technical Skills and Languages

Programming Python, Julia, MATLAB, C/C++, R, Java, Scala, Javascript

Others Git/GitHub, L^AT_EX, KiCAD, Arduino

Languages Portuguese (Native), English (TOEFL C1), Spanish (Basic)

Extracurricular Activity

Coding: Informatics for the Schools

Fortaleza-CE, Brazil

COORDINATOR . MAIN LECTURER

Aug. 2016 - Dec. 2017

- Teaching computer programming to low-income teenage students from public professional schools in Fortaleza-CE, Brazil.
- Involved 6 different schools with over 200 hours of lectures in total.

Study Group for the Programming Marathon – GEMP

Fortaleza-CE, Brazil

COORDINATOR . LECTURER

Feb. 2017 - Dec. 2017

- Institutional study group focused on competitive programming and problem solving.

Study Group for Linux and Free Software – GELSoL

Fortaleza-CE, Brazil

COORDINATOR . LECTURER

Feb. 2017 - Dec. 2017

- Institutional study group focused on Linux systems management and free software development.

Talks/Presentations

RAITEC's Technological Challenge 2020 (DTec'20)

INVITED TALK ENTITLED "REINFORCEMENT LEARNING: CONTROLLING INTELLIGENT AGENTS".

Virtual

Dec. 2020

Academic Week of Teleinformatics and Communications Engineering 2019 - UFC/DETI

INVITED TALK ENTITLED "BAYESIAN METHODS FOR MACHINE LEARNING"

Fortaleza-CE, Brazil

Oct. 2019

XIII Academic Week of Computer Science (XIII SAC) - UFC/DC

INVITED WORKSHOP ENTITLED "NEURAL NETWORKS: A PRACTICAL INTRODUCTION"

Fortaleza-CE, Brazil

Aug. 2018

VI Science and Technology Research Exhibition – DeVry Brazil

PRESENTATION ON "THE USE OF INTERACTIVE METHODOLOGIES FOR LEARNING OBJECT ORIENTED PROGRAMMING"

Fortaleza-CE, Brazil

May. 2015

- Honored as the best presentation in the "Information Systems" track.

Committees

2021	Delegate Peer Reviewer , 11th IFAC Symposium on Advanced Control of Chemical Processes (ADCHEM'21)	Virtual
2020	Delegate Peer Reviewer , 21st IFAC World Congress (IFAC-V 2020)	Berlin, Germany
2019	Problem Setter , IX Ceará Informatics Olympics (IX OCI)	Ceará, Brazil
2018	Problem Setter & Staff , VIII Ceará Informatics Olympics (VIII OCI)	Ceará, Brazil
2017	Problem Setter & Judge , VII Ceará Informatics Olympics (VII OCI)	Ceará, Brazil
2016	Problem Setter & Staff , VI Ceará Informatics Olympics (VI OCI)	Ceará, Brazil

List of Publications

Conference Articles

- 2021 **O. Neto, A. Haddon, F. Aichouche, J. Harmand, M. Mulas, F. Corona**, "Predictive control of activated sludge plants to supply nitrogen for optimal crop growth", In Proc: 11th IFAC Symposium on Advanced Control of Chemical Processes, (*Submitted*).
- 2020 **O. Neto, M. Mulas, F. Corona**, "On the observability of activated sludge plants", In Proc: 21st IFAC World Congress, Berlin, Germany, 2020, (*To Appear*).
Link: (Preprint) https://tiominho.github.io/static/papers/BSM1_obsrv.pdf
- 2020 **O. Neto, M. Mulas, F. Corona**, "On the controllability of activated sludge plants", In Proc: 2020 European Control Conference (ECC), Saint Petersburg, Russia, 2020, pp. 581-586.
Link: <https://doi.org/10.23919/ECC51009.2020.9143863>

Thesis

- 2019 **O. Neto**, "Optimal Control: An application to a non-isothermal continuous reactor", B.Eng Thesis, Department of Teleinformatics Engineering, Federal University of Ceará.
Link: https://tiominho.github.io/static/papers/bachelor_ufc.pdf