ANGEL ADRIÁN ROJAS JIMÉNEZ

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○ DETAILS ○

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DATE / PLACE OF BIRTH
1996-11-23
Machala, Ecuador

NATIONALITY
Ecuadorian

○ SKILLS ○

Programming in Matlab

Programming in Haskell

Programming in C

Programming in Mathematica

○ LANGUAGES ○

English. TOEFL iBT score: 93

○ HOBBIES ○

Solving mathematical olympiad exercises, programming, writing poetry, playing basketball.

○ LINKS ○

Research Gate

Wordpress

Linkedin

Github

Twitter

Instagram

PROFILE

My thesis to obtain the degree of B.Sc. in Mathematics is titled A Target Oriented Averaging Search Trajectory and its application to Artificial Neural Networks. It was supervised by Ph.D. Andreas Otto Karl Griewank and co-supervised by Ph.D. Oscar Chang. An extended research by Andreas and me is a conference paper for The Fifth International Conference on Machine Learning, Optimization, and Data Science. Treating Artificial Neural Net Training as a Nonsmooth Global Optimization Problem is the paper title. Our approach is being further developed in the project: Abs-linear learning based on gradient descent methods and mixed integer quadratic/linear programming. The latest and accepted work is Generalized Abs-linear Learning for NeurIPS 2019 Workshop Program Transformations. Published papers are listed below.

Besides, I worked on the following projects: i) An algorithm to construct piecewise smooth functions on the abs-normal form using Haskell. This project is carried out with Ph.D. Francesc Antón. ii) A bifurcation analysis and a numerical solution based on finite element method for a PDE treated by Ph.D. Joseph Paez Chavez, et al. This partial differential equation is formulated in their paper: A new self-excited chemo-fluidic oscillator based on a stimuli-responsive hydrogels. This project is being done with Ph.D. Juan Carlos Lopez and Ph.D. Antonio Acosta.

EMPLOYMENT HISTORY

Auxiliar professor in Multivariate Calculus at Yachay Tech University, Urcuqui
October 2018 — December 2018

Supervised by the professor Ph.D. Eusebio Ariza García

Auxiliar professor in Differential Calculus at Yachay Tech University

September 2016 - January 2017

Supervised by the professor Ph.D. Yenny Rangel

April 2017 - August 2017

Supervised by the professor Ph.D. Hugo Fernandes.

EDUCATION

B.Sc. in Mathematics, Yachay Tech , Imbabura
March 2014 — May 2019

INTERNSHIPS

Student in practice at Humboldt University, Berlin
August 2019 — September 2019

An internship about "The training of neural networks by global nonsmooth optimization based on successive piecewise linearization "at the Institute for Mathematics at the Humboldt University in Berlin.

EXTRA-CURRICULAR ACTIVITIES

Student Volunteer at NeurIPS conference, Vancouver
December 2019

Door-badge monitor.

Participant and speaker at Operation Research conference, Dresden
September 2019

A. Griewank and A. Rojas. Abs-linear learning by mixed binary quadratic optimization.

Participant at 6th International Conference on Continuous Optimization, Berlin
August 2019

Participant and speaker at Décima Escuela de Física Matemática Machine Learning for Quantum Matter and Technology, Bogota
May 2019

This summer school had instructors from Vector Institute.

Silver medal at Ecuadorian Mathematical Olympiad (OMEC), Quito
November 2019

Two-days final. Each day involved a 3.5h test.

Participant at Latin American Workshop on Optimization and Control, Quito
September 2019

Participant and paper co-author at Machine Learning, Optimization & Data Science Conference, Siena
October 2019

A. Griewank and A. Rojas. Treating artificial neural net training as a nonsmooth

global optimization problem. Proceedings of Lecture Notes in Computer Science 2019, Springer.

REFERENCES

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Francesc Anton Castro from Yachay Tech
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Juan Carlos Lopez from Yachay Tech
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