For more information: https://dsevero.com

### SHORT BIO

Graduate student with 5 terms of experience TAing, 3 years as a Data Scientist in Brazil, and 2 years as a Machine Learning Engineer implementing solutions in PyTorch for healthcare applications. Contributed to open-source projects such as Dask and Dask-ML.

### **EDUCATION**

## University of Toronto

Electrical & Computer Engineering
Master of Applied Science (M.A.Sc.)
Undergraduate Exchange Program (1 year)

 $\begin{array}{c} \text{Starting Fall } 2020 \\ 2013 - 2014 \end{array}$ 

# Federal University of Santa Catarina, Brazil

Bachelor of Science in Electronics Engineering

First Class Honours, 99th percentile.

## 2010 - 2015

### **AWARDS**

# Vector Scholarship in Artificial Intelligence Recipient 2020-21 2020

The Vector Scholarship in AI supports the recruitment of top students to AI-related master's programs in Ontario and is valued at \$17,500.

https://vectorinstitute.ai/aimasters

## NSERC Applied Research Rapid Response to COVID-19 Grant

Our project titled "Canadian Hospital Simulator For Management of COVID19 Cases and Contact Tracing" was awarded \$75,000.00.

https://www.nserc-crsng.gc.ca/Innovate-Innover/CCI-COVID\_eng.asp

### Virtual Design Challenge Winner

2019

2020

Won 1st place at the VDC hosted by The University of British Columbia with my paper *Proof of Novelty*. Received a cash prize of \$3,000.

https://github.com/dsevero/Proof-of-Novelty

### Student Merit Award and Medal

2015

Graduated with the highest GPA ever obtained (at the time) for my major. Elected "Best Student" by the faculty of Electrical & Electronics Engineering at the Federal University of Santa Catarina.

## Science Without Borders Scholarship

2013

Awarded a full scholarship that covered tuition, transportation, necessary materials and living costs to study 2 academic semesters at the University of Toronto.

# TEACHING EXPERIENCE

## Federal University of Santa Catarina

Teaching Assistant

Assisted professors by ministering tutorials, preparing lecture materials and helped students individually at regular office hours.

# • Communications Theory

Fall and Winter 2015

Analog modulations in amplitude and frequency; multiplexing; noise in communication systems; pulse modulation; analog-to-digital conversion; digital transmission in baseband and passband.

## • Introduction to Electronics

Fall and Winter 2013

Operational amplifiers; diodes; the bipolar junction transistor; field effect transistors; optoelectronic components.

## • Single-Variable Calculus

Fall 2010

Real-valued functions; limits; continuity; derivatives and applications; definite and indefinite integrals; integration techniques; improper integrals.

**CERTI** Foundation

2010 - 2013

Intern Programming Instructor

Responsible for the technical training of new and current interns. Created a training course in LabVIEW programming that is still in use as of 2020.

UNPUBLISHED RESEARCH PROFESSIONAL SERVICE [severo 2019 ward 2 icu]

NeurIPS 2019: Conference on Neural Information Processing Systems

Reviewer for the Machine Learning for Health (ML4H) workshop.

OPEN SOURCE CONTRIBUTIONS

Dask: Scalable analytics in Python

https://github.com/dask/dask/pulls?q=author:dsevero

Dask-ML: Scalable Machine Learn with Dask

https://github.com/dask/dask-ml/pulls?q=author:dsevero

Ward2ICU: A Vital Signs Dataset of Inpatients from the General Ward

https://github.com/3778/Ward2ICU

PROFESSIONAL EXPERIENCE

## **Independent Contractor**

2018 - Current

Machine Learning Engineer & Researcher

Developed a Fast Healthcare Interoperability Resources DataLake for running high volume machine learning models; Feature engineering and mathematical modeling for clustering algorithms used to segment patients into similar health groups; Ranked patients by future spendings using financial data achieving a precision at n=1,000 of 50% from a 15,000 total; Predicted patient LoS (Length of Stay) with regression techniques and hospital sensor data; Modified CoSimRank to create a similarity measure between developers and companies using Stack OverFlow data using Neo4j and Python.

Linx Impulse 2016 - 2018

Head of Data Science

Developed recommendation algorithms for E-commerce customers; Provided ad-hoc big data analyses to find insights from our data; Designed and monitored competitive A/B experiments devised to validate our systems performance in the face of competition; Internal A/B testing tool using the SciPy and Jupyter stack; Bandit algorithms for online optimization

## Wavetech Technology Solutions

2015

 $Embedded\ Systems\ Engineering\ Intern.$ 

Worked on microcontroller programming in C/C++ for cochlear implants.

#### **CERTI** Foundation

2010 - 2013 (Intern.)

Implemented signal processing routines (filter design

2015 - 2016 (R. Eng)

and realization) in C; Programmed back-end and front-end Python software for Raspberry Pi; Embedded eLua on a platform previously developed by CERTI.

### **WEG Industries**

Summers 2011 and 2012

Electrical Engineering Intern.

Software upgrade, in LabVIEW, of an automatic calibrator of multimeters in order to account for different input frequencies; Conception and implementation of a hardware and software (LabVIEW) system that acquires, processes and stores data of specific parameters of electric motors.

## REFERENCES

### Prof. Ashish Khisti

University of Toronto

Professor and Canada Research Chair (Tier II)
Department of Electrical & Computer Engineering
https://www.comm.utoronto.ca/~akhisti/

## Prof. Frank R. Kschischang

University of Toronto

Distinguished Professor of Digital Communication Department of Electrical & Computer Engineering https://www.comm.utoronto.ca/frank/

### Prof. Danilo Silva

Federal University of Santa Catarina

Associate Professor

Department of Electrical and Electronic Engineering

http://danilosilva.sites.ufsc.br/index.html

## Prof. Chen Feng

The University of British Columbia

Assistant Professor School of Engineering

https://people.ok.ubc.ca/cfeng01/index.html