Daniel de Souza Severo

For more information: https://dsevero.com

RESEARCH INTERESTS

Minimum Description Length (MDL) Principle and its connections to machine learning and data compression. Currently working on lossless compression through bits-back coding and deep latent variable models with my advisors Ashish Khisti (UToronto) and Alireza Makhzani (Vector Institute).

EDUCATION

University of Toronto
Electrical & Computer Engineering
Master of Applied Science (M.A.Sc.) — Started Fall 2020
Undergraduate Exchange Program (1 year) — 2013 - 2014

Federal University of Santa Catarina, Brazil — 2010 - 2015
Bachelor of Science in Electronics Engineering
First Class Honours, 99th percentile.

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 2020
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
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.

PUBLICATIONS

Reys, Arthur D., Danilo Silva, Daniel Severo, et al.: *Predicting Multiple ICD-10 Codes from Brazilian-Portuguese Clinical Notes*. Accepted at BRACIS. 2020. arXiv: 2008.01515 [cs.CL].

PREPRINTS

Severo, Daniel: *A Report on the Ziggurat Method*. 2020. DOI: 10.6084/m9.figshare.10324868.v1.

Severo, Daniel, Flávio Amaro, Estevam R. Hruschka Jr, et al.: *Ward2ICU: A Vital Signs Dataset of Inpatients from the General Ward*. 2019. arXiv: 1910.00752 [cs.LG].

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
  Amplitude and frequency modulations; 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.

PROFESSIONAL SERVICE

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

Vector Institute for Artificial Intelligence 2020 - Current
Graduate Student Researcher

3778 Healthcare 2018 - Current
Machine Learning Engineer & Researcher

Linx Impulse 2016 - 2018
Head of Data Science

Wavetech Technology Solutions 2015
Embedded Systems Engineering Intern.

CERTI Foundation
Electrical Engineering Intern. 2010 - 2013
Research Engineer 2015 - 2016

WEG Industries Summers 2011 and 2012
Electrical Engineering Intern.