

Fabricao Dos Santos

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EDUCATION

BSc. Mathematics & Computer Science

Montreal, QC | Expected May 2024

McGILL UNIVERSITY

GPA: 3.98/4.00

Awards: James McGill Scholarship, Emily Ross Crawford Scholarship, Dean's Honour List

Coursework: Data Structures and Algorithms; Computer and Software Systems; Operating Systems; Machine Learning

WORK EXPERIENCE

MCGILL UNIVERSITY | RESEARCH ASSISTANT

Montreal, QC | Jan 2023 - Apr 2023

- Conducted research on the connections between the mathematical areas of Group Theory and Formal Language Theory, with applications to Algorithm and Compiler Design.

FRENCH CONSULATE OF SÃO PAULO | INTERN

São Paulo, Brazil | Sep 2017

- Conducted interviews for visa applications.
- Designed templates for the Consulate's social media accounts.
- Organized a competition to promote the teaching of the French language in Brazil.

EXTRACURRICULARS

WORLD ORGANIZATION OF THE SCOUT MOVEMENT | VOLUNTEERING

São Paulo, Brazil | 2009 - 2020

- Participated actively in the Scout Movement for more than 10 years, taking part in various multicultural events in multiple countries.
- Led a team of 8 people for 5 years in a competitive environment, winning several distinctions.
- Collaborated in volunteering projects such as building a school in Ecuador for underprivileged kids.

PROJECTS

TRUTH TABLE GENERATOR

JAVASCRIPT, HTML5, CSS

Developed a webpage to generate truth tables of propositional formulas. Used Javascript to implement a parser for propositional logic and to evaluate a boolean function by creating its truth table

IMAGE PREDICTION

PYTHON, PYTORCH, NEURAL NETWORKS, MACHINE LEARNING

Implemented a Convolutional Neural Network with PyTorch to predict with high accuracy the product of numbers appearing in images coming from a modified MNIST dataset.

PROGRAMMABLE 4-BIT COMPUTER

LOGISIM, LOGICAL CIRCUITS, COMPUTER SYSTEMS

Created a 4-bit programmable computer with instructions load, store, add and subtract through the use of logical circuits in Logisim. This computer consisted of an eight slot RAM and a basic CPU with two general purpose registers.

WALL FOLLOWING ROBOT

PYTHON, ARDUINO, SENSORS, CIRCUITS

Built an Arduino robot with ultrasonic sensors that followed the walls of a room and drew the shape made by these walls using Python. Implemented a proportional integral derivative (PID) controller to avoid the robot from hitting the wall.

SKILLS

Languages: Fluent English, French and Portuguese, Intermediate Spanish

Programming Languages: Python (NumPy, Matplotlib, PyTorch), Java, C, OCaml, MATLAB, SQL

Web Development: JavaScript, HTML5/CSS

Technology: Bash, Unix, Git, MIPS Assembly, \LaTeX