Simone Reynoso Donzelli

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SUMMARY

I received my BSc. in chemical engineering at the Universidad Iberoamericana in 2022 and got the opportunity to continue my graduate studies at the University of Waterloo. My research focuses mainly on the implementation of novel Machine Learning techniques (Reinforcement Learning) in chemical engineering optimization problems. Besides my engineering background, programming is a big passion of mine and the constant knowledge update has always been very appealing, codes and projects can be found at my GitHub page.

PROFESSIONAL BACKGROUND

•University of Waterloo

Graduate student in chemical engineering

- Application of Reinforcement Learning techniques in mixed integer dynamic nonlinear programming optimization problems in the chemical engineering area

Universidad Iberoamericana

Research assistant

- Development of a hybrid platform between Python and the chemical engineering simulation suite ASPEN that enabled to perform real-time optimization. In this case this platform was used to optimize via genetic algorithms the composition of a working fluid in an Organic Rankine Cycle (ORC)

ACADEMIC BACKGROUND

•University of Waterloo

MS in Chemical Engineering

•Universidad Iberoamericana (IBERO)

BS in Chemical Engineering Highest CGPA of the class

•Schweizerschule Mexiko – Colegio Suizo de México (CSM)

Elementary to High School studies Highest CGPA of the class

PROJECTS

•AI Based Road Inspection System for Mexico

Building and training an intelligent model to detect road defects in real-time. (Lead ML engineer)

- Tools & technologies used: Python (Tensorflow, Pytorch, Scikit, Pandas, others)
- Train a pre-trained deep convolutional neural network image classifier (YOLO) to detect road defects in real-time. Data such as cracks, patches and rutting are were used for the training.

•Green Algeria Project

Building an intelligent control system for greenhouses (Lead ML engineer)

- Tools & technologies used: Python (Tensorflow, Pytorch, Scikit, Pandas, others)
- Decide the best values for managing the levels of temperature, humidity, the use of water, the light and other parameters inside the greenhouse. Notify the growers when there are issues within the crop relating to growth rate, pests, and disease.

TECHNICAL SKILLS AND INTERESTS

Languages: Spanish (Native), Italian (Native), English (Level C2 with Cambridge Certification), German (Level C1 with Deutsches Sprachdiplom Certification), French (Level B2 with DELF Certification), Chinese (Level A2 with HSK Certification)

Advanced Programming Languages: Python, Microsoft Office Suite, MatLab

Intermediate Programming Languages: SQL, PowerBi, HTML, CSS, JS

Soft Skills: Leadership, Communication, Teamwork, Adaptability, Self-Taught, Resourcefulness, Time management Areas of Interest: Optimization, Engineering (Chemical Engineering), Machine Learning, Data Science. Deep Learning, Reinforcement Learning

EXTRACURRICULAR AND LEADERSHIP EXPERIENCE

• Volunteer, Work with underprivileged children at Gertrudis Bocanegra Institute August 2016 – June 2018

•Dean, Work in a catholic summer camp in Dublin (Dublin Oak Academy)

June 2015 - August 2015

March 2023 - Ongoing

September 2022 - December 2022

January 2022 - August 2022

Mexico City

January 2023 - Ongoing

Waterloo, ON

2023 - Ongoing Cummulative GPA:

2018-2022 Cummulative GPA: 9.6/10

2004-2018 Cummulative GPA: 9.5/10