

Iván GONZÁLEZ PÉREZ

M.Sc. Mechanical Engineer | Data Scientist

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M.Sc. Mechanical Engineer specialized in the use of data driven approaches to solve complex problems in mechanical industries including mining, welding and robotics. Experience in end-to-end machine learning projects from problem definitions with stakeholders, data preprocessing, data augmentation, modeling, deployment and showcasing key results. Highly motivated with the application of novel digital technologies in diverse and agile teams.

WORK EXPERIENCE

Today March 2022	Senior Data Scientist, ACCENTURE, Santiago, Chile <i>Data Scientist for BHP DIGITAL FACTORIES - ENERGY CONSUMPTION OPTIMIZATION PROGRAM</i> <ul style="list-style-type: none">> Deploy and maintain backend for digital product of energy efficiency.> Lead new data science team transition.> Analyze opportunities to accomplish BHP's energy saving goals and propose improvements of digital product using reinforcement learning. <p>       </p>
March 2022 August 2021	Data Science Consultant, VANTAZ, Santiago, Chile <i>Data Scientist for BHP DIGITAL FACTORIES - ENERGY CONSUMPTION OPTIMIZATION PROGRAM</i> <ul style="list-style-type: none">> Analyze equipment tag data to identify opportunities in the operation and minimize specific energy.> Generate data driven models and define policies for energy optimization in ball mills operation.> Integrate models into a digital product following industry standards to be used by the operation.> Report value in terms of savings of specific energy consumption, CO2 emissions and USD.> Establish good practices and documentation for the Data Science team in an agile environment. <p>       </p>
August 2021 May 2021	Data Science Consultant, VANTAZ, Santiago, Chile <i>Data Scientist for BHP DIGITAL FACTORIES - TACTICAL ASSET HEALTH MANAGEMENT</i> <ul style="list-style-type: none">> Framing of conveyor belt failure detection for tactical health assessment in Spence mine.> Use of statistical models (ARIMA) in historic tag data for failure detection.> Assess value and predictability of different failure modes. <p>    </p>
May 2021 October 2020	Data Scientist U. of Chile - CORFO, ADVANCED MANUFACTURING AND INNOVATION PROGRAM (IMA+), Santiago, Chile <ul style="list-style-type: none">> Meet with stakeholders to identify opportunities of failure detection based on historic data.> Implement machine learning models (CNN, Autoencoders, PCA) for mechanical asset health management in diverse fields such as mining, welding and robotics. <p>      </p>

PROJECTS

WELDING DROPLET SEGMENTATION USING FULLY CONVOLUTIONAL NETWORKS

2020 - 2021

 <https://github.com/igonzalezperez/Welding-droplet-analysis-using-fully-convolutional-networks>

M.Sc. thesis project, high speed welding videos segmentation using Fully Convolutional Networks. Further post processing is carried out to obtain relevant physical properties such as velocity, acceleration and surface tension among others. This investigation was carried out in the Canadian Centre for Welding and Joining at the University of Alberta in association with the University of Chile.

      

SOFTWARE

Programming	Python, Matlab, Julia
Python Libraries	numpy, pandas, cv2, scikit-learn, tensorflow, scipy, sqlalchemy, matplotlib, seaborn, loguru
Databases	Microsoft SQL Server, MySQL, PostgreSQL
Developer Tools	PyCharm, Visual Studio Code, Jupyterlab, Spyder, Git, Github, Bitbucket, Sourcetree
Cloud	AWS - Cloud Practitioner
Other	Docker, Airflow, Atlassian suite, Miro, Microsoft Office

FORMATION

2021	Master of Science in Mechanical Engineering, University of Chile. Grade - 6.7/7.0
2021	Mechanical Engineering, University of Chile. Grade - 7.0/7.0

AWARDS AND CERTIFICATIONS

2022	AWS Cloud Practitioner.
2020	Emerging Leaders of the Americas (ELAP) award. Research internship at the Canadian Centre for Welding and Joining at the University of Alberta.
2020	NVIDIA DLI Certificate – Fundamentals of Deep Learning for Multiple Data Types issued by NVIDIA Deep Learning Institute.
2017	TOEFL iBT english test. Score : 114/120.

LANGUAGES

Spanish (Native)	● ● ● ● ●
English	● ● ● ● ●
French	● ● ○ ○ ○

STRENGTHS

- > Goal-driven
- > Teamwork
- > Adaptability
- > Complex problem solving

REFERENCES

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