






BENJAMÍN MARCHANT

DATA SCIENTIST / STRUCTURAL ENGINEER

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EDUCATION

ACADEMIC BACKGROUND

- Bachelor of Structural Engineering**
Pontificia Universidad Católica de Chile.
2015 - 2018
- Erasmus Exchange**
Uppsala University, Sweden.
Aug. 2016 - Jan. 2017
- Bachelor of Natural Sciences and Mathematics**
Pontificia Universidad Católica de Chile.
2012 - 2015
- Highschool**
Colegio Concepción San Pedro, Chile.
2007 - 2011





SELF-LEARNING COURSES

-  **Applied Machine Learning in Python**
University Of Michigan
May. 2023 4 wks
-  **Introduction to Data Science in Python**
University Of Michigan
Apr. 2023 4 wks
- Jumpstart the Raspberry Pi Pico**
Udemy
Apr. 2022 4 hrs
- Macro photography**
Biodiversidad Chile
Apr. 2021 6 hrs
- Bird photography**
Indomito
Apr. 2021 6 hrs
- Mountaineering**
Club Andino Universitario
Apr. 2018 - Oct. 2018 7 mos
- English**
Instituto Chileno Británico de Cultura
2005 - 2010 5 yrs








ADDITIONAL INFORMATION

SIDE PROJECTS

(click on the project for more info)

-  Tomorrow's Netflix stock price
-  Invasive species in Antarctica
-  Model of living systems
-  Bird's calls memory game

SKILLS

-  Python
-  Github
-  Visual Studio Code
-  Inkscape
-  C#
-  SQLite
-  Microsoft Excel

LANGUAGES

- Spanish**
Native
- English**
Fluently

HOBBIES

- Rock Climbing
- Wildlife Photography

PROFESSIONAL PROFILE

Structural engineer with strong understanding in **linear algebra**, physics and passionate about programming.

Experienced in **computational geometry**, **numerical methods** and **data** management resulted from **2D/3D modelling**. Complete understanding of math behind a structural software.

Passionate about team working, self-teaching. Rock climb instructor at mountaineering Club Andino Universitario.

WORK EXPERIENCE

WILDLIFE CONSULTANT

Sept. 2022 - Apr. 2023
8 mos

Fundación Andescalada

Foundation that coordinates the sustainable development of climbing areas in Chile.

Collected data about flora, fauna and funga in Cajón del Maipo, El Manzano. By **retrieving data** from trail cameras, **iNaturalist API** and field work within a presence-absence methodology. Retrieved 524 observations (**80%** of the total data) from iNaturalist **database** in **Python**, managed it with **Pandas** and **NumPy**, and visualited on **Matplotlib**.

Spoke on wildlife talks for the **community**. **Involved** them into **actively participation** by reporting species. The data collected contributes 56% of the total species reported. Adding 167 new species which **50% comes from community participation** during the project.

COMPUTATIONAL GEOMETRY SOFTWARE ENGINEER

Oct. 2021 - Sep. 2022
1 yr

Structure Stech

Develops plugins for construction industries with innovative solutions that enhance productivity and optimize processes.

Improved users experience by developing **2D/3D geometrical algorithms** for the **automatization** of drawing routines in construction industry. Reduced time, effort and improved productivity for repetitive tasks of magnitude around months to **few-clicks tasks** done within days.

Collaborated on *Gravity*, a private **desktop application** for structural analysis and concrete design. Developed **unique tools** for structurals engineers.

Worked on a **.NET Core** framework. **Visual Studio** as the development environment, **C#** as the programming language, **git** and **github** for team collaboration.

SEISMIC CONSULTANT

Jul. 2019 - Aug. 2021
2 yrs 2 mos

EQCO, Earthquake Engineering Consultants

Recently established as the organizational front end for providing Consulting Services in Earthquake Engineering.

Provided consulting service to different projects in the area of **Earthquake Engineering**. Worked on structures like : hydroelectric, electrical equipment, eolic parks and jetties.

Developed **Python** scripts for running models. **Automatized** processes of weeks duration into hours. **Reduced time** of non-linear wind turbines modelling around 80%.

Cleaned and **interpreted data** results from structurals 2D/3D model's results. Used of **Python** libraries: **NumPy**, **Pandas** and **Matplotlib**.

SUMMER JOB

Jan. 2019
1 mos

SIRVE S.A., Seismic Protection Technologies

Data collection of structures materials from buildings across the route of Santiago metro line 7.

Statistical analysis to prevent damage in cultural heritage structures to control vibration serviceability of residential buildings.

Reported results served for the design of a solution to reduce vibrations without reducing the speed operability.

INTERNSHIP

Dec. 2016 - Jan. 2017
2 mos

Bechtel Chile Ltda.

Supported in Quebrada Blanca Phase 2, a mining project.

Organizing data of the project's quantity take-off, search for missing data and text inconsistencies.

Filled QB2's project quantities on Bechtel's **database** by writing **Excel macro** scripts. **Reduced time** for the task from a week to one day, allowed me to focus only on errors and inconsistencies.