

# Adolfo Villalobos

DATA SCIENTIST · MATHEMATICAL ENGINEER

Santiago, Chile

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## Skills

<b>Languages</b>	Python, R, SQL, Ruby on Rails, Javascript (Vue.js, Node.js), HTML/CSS, Latex, Go, Shell
<b>Cloud Services</b>	AWS (EC2, S3, Api Gateway, RDS, Lambda), Heroku
<b>Machine Learning</b>	Scikit-learn, NLTK, Keras, Tensorflow 2.0, Pytorch
<b>Data Processing</b>	Numpy, Pandas, Scipy, Spark (Core, SQL, MLlib)
<b>DevOps</b>	Docker, Git, CircleCI, TravisCI

## Experience

### Platanus

Santiago, Chile

TRAINEE DEVELOPER

April. 2021 - June 2021

- Wrote modular, secure and well tested code in Ruby/Rails and Javascript, currently being used in production.
- Partnered with product managers, designers and developers to deeply understand the needs of users, and build value-added features for a FinTech product.

### DICTUC UC

Santiago, Chile

DATA SCIENTIST AT JOINT VENTURE WITH AGROSUPER S.A. INNOVATION GROUP

March. 2019 - June 2020

- Developed with full ownership a prototype to detect the presence of risk factors among slaughterhouse workers, using machine learning algorithms and inertial sensors to obtain data about their movements.
- Partnered with stakeholders to understand the problem, improve prototype design, define success metrics and evaluate economic impact.
- Built a pipeline for ingesting and preparing raw sensor data (ETL), and posterior model training and inference using Python and AWS.
- Achieved 98% accuracy in the detection of the two most prevalent risk factors, improving average productivity in 8%.

### Institute for Mathematical and Computational Engineering UC

Santiago, Chile

PROJECT ENGINEER & RESEARCH

March. 2018 - June 2019

- Developed APIs for industry clients to forecast future values of critical operational variables using machine learning algorithms.
- Back-tested the models on historical data, and forecasted the values for three months into the future, reducing average MAPE error to 2%.

### Clase Ejecutiva UC

Santiago, Chile

CHIEF TEACHING ASSISTANT - BIG DATA FOR DECISION MAKING DIPLOMA

Aug. 2018 - Sept. 2020

- Communicated complex machine learning concepts into useful insights for senior professionals.

### Central Bank of Chile

Santiago, Chile

DATA SCIENCE INTERNSHIP, FINANCIAL RESEARCH GROUP

Dec. 2017 - March. 2018

- Partnered with economists to analyze survey data about debt underreporting in Chilean households, and its policy implications.
- Quantified the influence of debt-type and household size in debt underreporting, using regression models in STATA and R.

## Presentation

### II International Conference on Big Data and Decision Support Systems in Agriculture

Lleida, Spain

PRESENTER & BEST ARTICLE AWARD

Oct. 2020

- Presented a research work on the usage of machine learning algorithms to improve health conditions in slaughterhouses using inertial sensors.

## Education

### Pontificia Universidad Católica de Chile (PUC)

Santiago, Chile

M.Sc ENG. (MAXIMUM DISTINCTION), DEPARTMENT OF INDUSTRIAL ENGINEERING

Aug. 2018 - Dec. 2020

- Thesis on the usage of machine learning algorithms in IoT applications. Paper publication pending.
- Coursework on advanced machine learning topics (e.g.: Deep Learning, Online Learning, Bayesian Inference).

### Pontificia Universidad Católica de Chile (PUC)

Santiago, Chile

B.S. IN MATHEMATICAL & INDUSTRIAL ENGINEERING

Mar. 2013 - Aug. 2018

- Coursework on applied mathematics, machine learning and computer science.
- Teaching assistant for several undergraduate/graduate courses.
- Research assistant in advanced topics of applied mathematics.

## Projects

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### FALLA UC

Jan. 2018 - Jan. 2019

- A web based predictive maintenance dashboard developed in JavaScript for a chilean client, using AWS RDS and AWS Gateway to store streams of temperature data, and AWS Lambda for serverless transformation and data analysis.

### DEBTCONTROL BOTS

Jan. 2019 - Dec. 2019

- A web-scraping tool developed in Python to automatize payment notifications for a chilean loan-servicing company.

### DEEP LEARNING EXPERIMENTS

2019-2020

- Implemented several NLP models for text-translation and text-summarization problems using DL frameworks. See: <https://github.com/AdolfoVillalobos/deep-learning-projects>.

### COURSERA CERTIFICATIONS

2020

- Learn SQL Basics for Data Science Specialization, UC Davis
- Tensorflow Developer, DeepLearning.ai

## Organizations

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### LEONARDO MURIALDO SCHOOL

2013-2015

Founder & First Teacher of the Mathematical Olympiad Academy

### SIAM-PUC STUDENT CHAPTER

2015-2018

President (2016) & Core Member