

Luis Da Silva

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<http://luisds95.github.io/>

Professional profile

Data scientist with 3+ years of experience in machine learning and Python software development. Passionate about solving interesting and complex problems with real impact. Interested in natural language processing, reinforcement learning and financial trading. Enjoys devoting time to keep learning and sharpen existent skills so that they can be better employed into improving solution performance. Gets a sense of accomplishment with a well-done job, thus cares about ensuring targets are met to high standards when working on own or within a team. Outside work, time is usually spent developing reinforcement learning agents, participating in machine learning competitions or just going for a ride on a bike.

Core competencies

- Strong IT skills. Proficient in technologies including Python, R, Java, C++, SQL, Stata, NoSQL, VBA, HTML5, CSS, Git and LaTeX.
- Excellent machine learning skills, having worked in a wide range of professional and personal projects involving linear regressions, ensemble models, tree-based models and neural networks in order to predict an outcome, classify objects or optimise process by finding an appropriate strategy. These projects have included time series forecasting, classification, clustering, natural language processing, reinforcement learning, recommender systems and computer vision, and have been built on top of libraries like Pandas, NumPy, SciPy, NLTK, Gensim, Scikit-learn, TensorFlow, PyTorch and Keras.
- Wide understanding of clustering and genetic algorithms and their applicability to different project cases.
- Design and delivery of detailed reports and dashboards using technologies like Dash, Flask, Django and Tableau to communicate results and generate insights.
- Experience in working with high capacity parallel computing systems through PySpark and Docker in platforms like AWS, Azure and Google Cloud.
- Focus on producing clear and reusable production level code, with unit testing, integration testing and PEP 8 guidelines in Python along with clear commentary and documentation.
- Advance knowledge of macroeconomics, microeconomics, econometrics and financial markets.
- Seamless integration into any team, equally comfortable working individually on projects.
- Skilful at time management and able to work on different projects at the same time if necessary.
- Keen to enhance current skills and working on personal projects as a hobby to facilitate the process.

Formal education

2018 – 2019: University of Manchester, UK

- MSc Data Science, First Class Honours.
- Final grade: 85/100. Top 5% of the class.

2013 – 2017: Universidad Católica Andrés Bello, Venezuela

- BSc Economics.
- Final grade: 16.6/20. Top 5% of the class.

Experience

August 2019 – Present: Thought Provoking Consulting. London, UK

Data Scientist (Full Time Employee)

Produce bespoke software for retail clients that allows them to optimise their internal and external processes and facilitates decision making.

- Designed, developed and deployed a Python framework to automate the modelling process of a machine learning model used to optimise the discount to be taken out of products during markdown periods while reaching a sales target. The framework contains multiple parameters that can be auto optimised or specified by the user, giving the stack enough flexibility to adapt to the different requirements of clients.
- Created an intelligent web scraping and data analysis framework that takes a client's website and produces a dashboard with a set of metrics used in business reporting along with potential issues that may be in detriment of the brand's image, and presents it so the client can take action on them.
- Managed and collaborated closely with a team of machine learning and business consultants to both understand business requirements and ensure an adequate solution is developed.
- Estimated demand and price elasticity of demand in the food chain industry to obtain an optimal set of price changes without affecting volume significantly.
- Created procedures and jobs on SQL that are triggered every time new data comes in a performs multiple data-sanity checks.
- Flexibly switched among Python, SQL and R to work on different projects as per client/team requirements.
- Performed code validation and project restructuring on existent tools, building unit and integration tests where necessary.
- Functioned as server administrator by handling user accounts, security and server integration.
- Created extensive documentation on IT stack.
- Follow an agile approach to development using Kanban to monitor tasks and Git for source control.

September 2017 – October 2018: Bigvene. Caracas, Venezuela.

Co-Founder

Co-founded an academic research and retail consultancy company in Venezuela which grew to having 12 members and managing up to 3 projects at a time.

- Developed a bespoke demand estimation, inventory planning and price adjusting solution for two e-commerce retailers

using Python and SQL.

- Developed a competitor pricing monitoring tool for e-commerce retailers using Python and Selenium that in conjunction with the demand estimation tool was able to predict accurately the best price changes to implement to each product on a highly inflationary environment like Venezuela.
- Developed the backend in Python of a social media listening solution that used live data from Twitter and Instagram to report on customer reaction to be used when marketing campaigns and new products were launched by an e-commerce retailer.
- Led 2 separate teams in projects involving data cleaning, processing and re-coding in Stata to order to run inference models on the behaviour of people against political propaganda.
- Led a team into multiple projects of data collection from difficult to process sources including executing polls and processing pdf documents.
- Handled customer relationship, contract negotiation, finances and marketing.
- Prepared and presented Bigvene's offerings and proposals to potential clients.
- Proactively looked for and attended any administrative tasks left behind.

March 2018 – July 2018: Universidad Central de Venezuela. Caracas, Venezuela.

Associate Professor (part-time contract)

Served as associate professor for the module "Engineering Economics", which is focused on the creation and evaluation of an investment project.

- Taught to a class of 24 people once per week over one semester.
- Elaborated and assessed evaluations.
- Got a 4 out of 5 in the end of term student survey.

March 2017 – September 2017: Central Bank of Venezuela. Caracas, Venezuela.

Research Intern (part-time intern)

Performed inference analysis on the Social Accounting Matrices of Venezuela to obtain conclusions on the outcome of different policies taken between 1997 and 2007.

- Worked in Python to perform data cleaning and pre-processing to obtain a concatenated set of data from multiple departments.
- Developed routines in VBA to produce report sheets and graphics used to draw conclusions on what the data is showing.
- Wrote and presented the paper "[Structural changes in Social Accounting Matrix of Venezuela between 1997 and 2007](#)", which focus on the productive sectors of Venezuela and its relationship with the rest of the world. The main finding is that, even when the production increased, the productivity (amount of resources needed to produce a unit of output) decreased.

March 2016 – March 2017: Center for International Development at Harvard University. Remote.

Research Assistant (part-time contract during university)

Prepared data and performed inferential modelling to understand the impact behind the diaspora in Venezuela.

- Created web scrapers in Python to pull a large amount of data from different sources.
- Performed multiple data cleaning and statistical modelling procedures to measure the impact on the economy of people leaving the country.
- Manually assessed, corroborated and fixed a large corpus of data to guarantee its quality.

March 2015 – September 2017: Universidad Católica Andrés Bello. Caracas, Venezuela.

Teacher Assistant (part-time employee during university)

Assisted multiple professors in the teaching of 8 modules during my studies in economics.

- Taught Mathematics I and III, covering topics like: functions, derivatives, limits, integrals and equations in difference.
- Taught Macroeconomics I, III and Advanced, covering topics like: aggregated demand and supply, economic growth, unemployment, inflation, international trade, exchange rate, investment and regulations.
- Taught Econometrics, covering topics like: regression analysis with cross sectional and time series data, inference vs estimation, heteroskedasticity, binary variables, analysis of variance and simultaneous equations model.
- Taught Statistics I and III, covering topics like: describing data, percentiles, probability, distributions, sampling and hypothesis testing.

Links

- Portfolio - <http://luisds95.github.io/>
- LinkedIn - <https://www.linkedin.com/in/luis-da-silva/>
- Github - <https://github.com/luisds95>
- Medium - <https://medium.com/@luisds95>
- StackOverflow - <https://stackoverflow.com/users/9162159/luis-da-silva>

Additional information

- Languages: Spanish (native), English (fluent) and Portuguese (intermediate).
- Professional hobbies:
 - Building AI to play games like Texas Hold 'em Poker and chess
- Non-work-related hobbies:
 - Mountain biking, basketball and working out at the gym.
 - Chess, go and poker.
 - Socialising with friends

References available on request