

EDUCATION**M.S. in Data Science at Columbia University** (Dec 2016, GPA 3.65)

- **Courses:** Algorithms, Machine Learning (ML), Bayesian ML, Natural Language Processing (NLP), Computational Models of Social Meaning, Data Visualization, Distributed Computing, GIS & Spatial Analysis.
- **Capstone Project:** Sponsored by Goldman Sachs. Used natural language processing and deep learning tools to programmatically quantify changes on 10-K company reports.

B.Sc. in Economics at Tec de Monterrey - ITESM (Dec 2009, GPA 3.50)

- **Courses:** Econometrics, Time Series, Multivariate Analysis, Statistics, Mathematics for Engineering, Linear Algebra.

Certified Financial Risk Manager (Jan 2014, GARP)

- **Curriculum:** Asset pricing, quantitative analysis and Monte Carlo methods, volatility forecasting, financial markets and products, valuation and risk models.

PROFESSIONAL EXPERIENCE**Manager of the Market Data Team at MSCI** (Jan 2010 – Aug 2015)

Asides from maintaining the MSCI global indices, the company provides models for risk and optimization analysis.

- Built and managed the Market Data Productions team, leading 3 analysts.
- Worked with the global Research and Project Management teams to improve our risk models and factor in clients' suggestions.
- Developed interactive dashboards to analyze >10,000 time series efficiently (*SQL, R, SpotFire*).
- Developed scripts in R to backtest risk models and generate automated markdown reports (*SQL, R*).

Data Science Intern at Kora Management LP. (June 2016 – Dec 2016)

Kora is a global hedge fund that leverages on data science to make long term investment decisions.

- Scrapped unstructured transactional data from commerce websites, aggregated and analyzed it with *Spark (Scrapy, AWS EMR)*.
- Applied feature engineering on this data to build predictive models for companies' performance (*python, Spark*).
- Performed statistical analysis and inference on survey data (*python*).

Data Science Intern at Trinnacle Capital Mgmt. (Feb 2016 – May 2016)

Trinnacle is a quantitative hedge fund that uses unconventional data sources to discover market opportunities.

- Created and administered HDFS and SQL databases with financial and market data (*Hadoop, MySQL, AWS*).
- Built a model to identify short-term investment opportunities. For this I used a large dataset of historical minute-frequency data covering the 10 years, and applied backtesting (i.e. time series cross-validation) to find the best model parameters (*R*).
- Created a model that uses mobile GPS data to estimate the number of customers visiting a target business, and then predict its revenue. The first test case predicted with accuracy superior to Bloomberg's estimates (*R, Shiny*).

TA for Columbia's edX Courses (Dec 2015 – Feb 2016, NY)

- Statistical Thinking for Data Science and Analytics.
- Machine Learning for Data Science and Analytics.

PERSONAL PROJECTS (<http://masta-g3.github.io>)

Linear Content Blog (Ongoing): Personal blog where I post experiments on Machine Learning and NLP (*python*).

Summer Networks (Summer 2016): Several implementations of a neural network that can write short poems (*numpy, theano*).

MoMA Through Time (Feb 2015): HTML visualization of exhibitions patterns on the museum; awarded best of the hackathon (*R, D3*).

CULPA Sentiment (Feb 2015): Sentiment analysis and visualization of Columbia's academic course ratings (*python, HTML, D3*).

GENERAL SKILLS

Visualization: Shiny, SpotFire, D3 & P5.

Programming: R & Python.

DB & Cloud Computing: SQL, AWS & Spark.

GIS Analysis: QGIS, GeoDa & CartoDB.

Web: HTML, CSS & JS.