MANUEL RUEDA

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EDUCATION

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

- **Courses:** Algorithms, Machine Learning, Bayesian Models for Machine Learning, Natural Language Processing, NLP: Computational Models of Social Meaning, Data Visualization, Statistical Inference and Modeling, Distributed Computing, GIS & Spatial Analysis.
- **Capstone Project:** Sponsored by Goldman Sachs. Used natural language processing and deep learning to programmatically identify important changes on thousands of 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 (FRM) (Jan 2014, GARP)

- **Curriculum:** Quantitative Analysis, Financial Markets and Products, Valuation and Risk Models, Risk Management, Market Risk, Credit Risk, Operational Risk, Current Issues on Financial Markets.

PROFESSIONAL EXPERIENCE

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

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

- Programmatically scrapped unstructured data from e-commerce websites, aggregated it and analyzed it with *Spark* (*python*, *AWS EMR*).
- Applied feature engineering on this data to build predictive models on companies' quarterly performance (*python, Spark*).
- Applied regression analysis on survey data to evaluate brands' performance over time (*python*).

Data Science Intern at Trinnacle Capital Management (Feb 2016 – May 2016, NY)

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

- Created and administered databases with financial and market big data (*Hadoop*, *SQL, AWS*).
- Built a model to identify short-term investment opportunities based on earnings announcements. I used historical minute-frequency data for the last 10 years, and applied backtesting to find the best model parameters, such as entry and exit points (*R, SQL*).
- 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)*.

Senior Associate / Market Data Team Leader at MSCI (Jan 2010 – Aug 2015, MX)

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

- Built and managed the local Market Data Productions team**,** leading 3 analysts.
- Worked with Research, Engineering and Project Management to build financial risk models and incorporate clients' suggestions.
- Developed interactive tools and dashboards for analysts to analyze thousands of time series efficiently *(R, SQL, SpotFire*).
- Developed scripts to cross-validate and stress test risk models, generating automated reports for them (*R*, *SQL*).

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.

DATA PROJECTS (http://masta-g3.github.io)

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

Predicting Revenue from Online Reviews (Fall 2016)**:** By analyzing million of Amazon's reviews on brands and products (*python, Spark*).

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

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

GENERAL SKILLS

Programming: R & Python.
Visualization: Shiny, SpotFire, D3 & P5.
DB & Cloud Computing: SQL, AWS & Spark.
Scientific Computing: pandas, nltk, sklearn, theano.
GIS Analysis: QGIS, GeoDa & CartoDB.
Web: HTML, CSS & JS.

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To the hiring manager:

I'm a Columbia data scientist with experience on the investment management industry, with a focus on building predictive models to track and predict companies' performance. My work generally relies on using unconventional and unstructured data sources to discover market insights, and usually I work throughout all the stages of the project pipeline: data acquisition, ETL and preprocessing, modeling and validation, and presenting results to a broader audience. Below I highlight the last couple of projects I've worked on:

1. A model that uses mobile GPS data to estimate the number of visitors to a target business, and then predicts quarterly revenue based on the results of regression analysis.
2. An algorithm that collects transaction data from the web to estimate monthly activity on several e-commerce businesses.
3. A Natural Language Processing tool that programatically identifies important changes on thousands of 10-K and 10-Q company reports.
4. A project where I analyze millions of Amazon customer reviews to identify changes in sentiments toward specific products and brands, which could signal changes on the company's future performance.

Finally, I also have experience on traditional time series analysis, risk management models, and structured products, which I acquired during my years at MSCI and my studies for the FRM (Financial Risk Manager) certification.

As I'm graduating from my Master studies this coming December, I'm looking to join an investment management firm where I can continue developing as a quantitative analyst, keep up with the latest developments in the field, and apply them on a practical context. I've investigated Gerstein Fisher's factor models and your quantitative approach to investing, and I see it is pretty much in line with what I'm looking for. Due to this I would like to be considered for this opportunity , and I'm sure I would be able to greatly contribute to your team. I'm looking forward to learn more about this position, please let me know if you would need any other info from me.

Best,
Manuel R.