Contact

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www.linkedin.com/in/rubenszimbres (LinkedIn) github.com/RubensZimbres (Other)

Top Skills

Python Machine Learning Deep Learning

Languages

English (Full Professional) Portuguese (Native or Bilingual) Italian (Limited Working)

Certifications

BASIC I Programmation English Language TOEFL

Honors-Awards Military Rescue Operation Doctorate Scholarship Master's degree Scholarship

Publications

Simulation of interactions in social networks using cellular automata as a complementary method of quantitative analysis.

Agent-based Modeling: A Third Way of Doing Science ?

Game Theory and Transactions in Dentistry

Effects of changes in the neighborhood and initial state in the flow of information in social networks

Dynamics of quality perception in a social network: A cellular automaton based model in aesthetics services

Patents

Rubens Zimbres, PhD

Senior Data Scientist: Machine Learning, NLP, AWS, GCP Tensorflow São Paulo, São Paulo, Brazil

Summary

I am a strategist and data scientist with over 23 years of experience in customer service, management and was an academic researcher in Business Administration and Electrical Engineering for 7 years. As a Lieutenant of the Air Force I learnt negotiation techniques, leadership, team work and strategic focus. I'm used to join meetings with high level decision makers.

I work with Supervised and Unsupervised Machine Learning, Deep Learning, Transfer Learning, Natural Language Processing in the areas of telecom, finance, customer service and contact centers. Experienced in SPSS, Wolfram Mathematica, R , Python, Spark ML, SQL. I'm used to handle hundreds of GB of data.

I have dual Master's and Doctorate degree in Business Administration and Electric Engineering. I attended Wolfram Research at Brown University (USA). I own a patent of a computer program at INPI in Mathematica (cellular automata modeling).

Hands-on experience in Amazon AWS and Google Cloud Platform, using REST APIs, Flask, EC2, RDS (SQL Server), EMR (Hadoop and Spark Cluster), API Gateway, DynamoDB, S3, Data Pipeline, Redshift, Lambda, Kinesis, Firehose, ElasticSearch, SageMaker, ECS (Docker), Kibana, Quick Sight, Rekognition, Transcribe, Comprehend, Forecast + Google Cloud Functions (Serverless), Big Query, Datastore, Speech API, Google Vision, Compute Engine, TPU computing), Dialogflow and Docker at Linux environment. Experienced in developing IoT gateways using Raspberry Pi running Ubuntu Core/Raspbian in Python.

I created Pull Requests in two Microsoft's GitHub repos: to fix an incompatibility issue between Python 2 and 3 in pycocotools library (COCO Segmentation Model) and to properly read a file in PySpark

Cellular Automata Code to simulate artificial societies and social networks in C++ and Mathematica

(Predictive Maintenance repo). Also, a Pull Request in huggingface's transformers, to fix a missing variable in Anaconda environment.

I am a contributor in StackOverflow and AskUbuntu: Python, Keras, OpenCV, Tensorflow, Deep Learning, AWS, Google Cloud, and Ubuntu. Reputation 2886, 41 Badges.

My GitHub (1355 Stars 902 Forks) is at: http://github.com/ RubensZimbres

Curriculum Lattes: http://lattes.cnpq.br/2839171407154905

Doctorate Thesis (portuguese - 304 pp): https://tinyurl.com/teserubens-zimbres

The profile picture shows an unidimensional 4-state celullar automata similar to the one I used to simulate spread of information in social networks in my doctorate thesis at Mackenzie and Wolfram Research.

Experience

Intellimetri Senior Data Scientist December 2018 - Present (1 year 3 months) São Paulo Area, Brazil

Senior Data Scientist (team leader) at Intellimetri, a subsidiary of Vecto Mobile.

Due to our innovative efforts in Natural Language Processing area, Intellimetri was accepted at the Google Cloud Startups Program, Spark package on May 2019. On September, 20th, 2019, Google invested more 80,000 USD in Intellimetri and upgraded us to Surge Package.

Currently working with BERT (Tensorflow and fast.ai), feature engineering on audios, sentiment analysis, analytical insights and cloud infrastructure in solutions using Natural Language Processing for our clients (contact centers) in Portuguese and Spanish language. Working with ensembled models and Transfer Learning in Tensorflow to forecast revenue for our client (a hotel chain with 130 business units) with 92% accuracy in 84 days and working on Health data to generate strategic insights to guide investment and Marketing strategies using information retrieval from unstructured data and linear regression.

Also using NLP to automate fraud detection in Telecom (using voice data with 98% accuracy on balanced classes) and improving a Predictive Maintenance algorithm based on anomaly detection for Point-of-Sales equipments.

Currently working on social networks and social engineering in the food sector.

Vecto Mobile Data Scientist

October 2017 - November 2019 (2 years 2 months) São Paulo Area, Brazil

Vecto Mobile is a MVNO that works with connectivity solutions. At Vecto, I am responsible for Machine Learning, Deep Learning, NLP and cloud solutions.

Some of the projects I developed algorithms:

- Predictive Maintenance for POS for big acquirers in Brazil, analyzing millions of examples of telemetry data, generating predictions 3 days in advance for imbalanced datasets.

- Conversational chatbot using Natural Language Processing for a big brazilian private bank, using Microsoft Cloud framework and NLP.

- Deep Learning model for agrochemical scheduling in coffee farms using temperature, humidity, UV rays and wind sensors.

- Machine Learning model for recommendations in scientific coffee roasting using temperature, humidity, pressure and movement sensors, analyzing streaming data in real time at AWS.

- Algorithm to count trees in crops and detect plant diseases from satellite images.

- Speech recognition and Natural Language Processing algorithms for analyzing phone calls on Google Cloud Platform, manipulation of audio through filters reaching an assertiveness of 97%. We generated valuable strategic insights, and increased level of success of calls and customer satisfaction.

- Complete end-to-end IoT solution from sensors to dashboards using AWS IoT Core, including a voice activated IoT gateway to control hardware.

I was able to decrease Vecto Mobile's cloud computing costs by 64% through code optimization. I code for development, production and deployment. Responsible for Research and Development of algorithms, new products and IoT solutions (cloud and hardware).

Google

Lecturer at Google - UOL Diveo March 2019 - March 2019 (1 month) São Paulo Area, Brazil

I presented a successful business case at Google - UOL Diveo Conference. The business case was about a solution using Natural Language Processing, Speech Recognition and Deep Learning in a Google Cloud infrastructure.

Universidade Federal de Goiás Instructor at Deep Learning Summer School February 2018 - February 2018 (1 month) Goiânia Area, Brazil

Instructor at Deep Learning Brazil Summer School, where I lectured about GANs (Generative Adversarial Networks) and guided participants in a workshop of practical implementation using Keras and Tensorflow in a AWS EC2 instance + GPU.

BOOST Machine Learning Consultoria Data Scientist October 2014 - July 2017 (2 years 10 months) São Paulo Area, Brazil

I worked with following methods to leverage profit, increase efficiency and identify sources of competitive advantage for businesses in health sector:

- Econometric models using market indexes and utility function to forecast sales

- Conjoint analysis for market research

- Relational algebra with feature hashing

- Statistical analysis (descriptive and multivariate: Linear, Non Linear, Polynomial, Logistic and Multinomial Logistic Regression, Discriminant Analysis, Factor Analysis, Principal Components Analysis, t-SNE): identify causes, relevant variables, market segmentation - Classification algorithms in predictive analysis (Decision Trees, Naive Bayes, Random Forests, K Means, K Nearest Neighbors, Support Vector Machines): market segmentation, price elasticity and facial recognition

- Optimization (Monte Carlo Tree Search with fuzzy string match, genetic algorithms, gradient descent): determine employee churn rate

- Deep Learning: Convolutional, Recurrent, Recursive Neural Networks: computer vision, pattern recognition, face recognition, Natural Language Processing

- Clustering algorithms: (K Nearest Neighbors, K Means): identify niches, handle Big Data and sampling

- Survival analysis: determine product life cycle and obsolescence of marketing strategies

- Simulation (Markov Chain Monte Carlo, Cellular Automata, Agent-Based Models): simulate contagion in social networks, logistic problems and herd behavior

- Time Series analysis associated with Discrete Event Simulation: predict strategy's outcomes

- Machine Learning: supervised, unsupervised and ensembled ML as an optimization algorithm and to extract features from Big Data

- Symbolic Artificial Intelligence with forward and backward chaining inference for social network modeling

Doux Dermatologia CDO and Business Intelligence Analyst October 2010 - July 2013 (2 years 10 months) São Paulo Area, Brazil

Doux Dermatologia has 15 employees. I assumed and in the first 6 months 6 out of 12 employees were fired, debt was renegotiated. New employees were hired. I developed a new image repositioning for the clinic, as well as a customer oriented strategy associated to monthly goals and variable remuneration. Google AdWords customization, SEO, word-of-mouth

advertising were the choices given that the business was not able to finance broader scope strategies.

I did a comprehensive database analysis (1,000,000 records) and a customer research to define keywords for Google AdWords, SEO, find out the most profitable procedures, demand sizing and guide the strategic planning. Financial indexes were monitored, like net worth, gross margin, net profit, assets, liabilities, ROI, ROA, ROE, EBITDA, financial leverage, current liquidity ratio, inventory turnover and customer churn rate.

The analytical tools used were: relational algebra in databases, conjoint analysis, statistical analysis (descriptive and multivariate), time series analysis and clustering algorithms.

In the first year, profit doubled. After 2.5 years net profit increased 239%, financial leverage decreased 36%, stock turnover increased 15%, ROI increased 206%, ROE 95% and EBITDA 98.5%. With an increase in price strategy we decreased number of appointments and increased revenue (more efficiency). Up to 2013, most of the debt was paid and after analysing Net Present Value, we decided to buy a skin treatment laser, expense supported by the financial health of the business. Employee satisfaction increased and this reflected in total revenue of the business, customer loyalty and WOM.

National Meetings of Management in Health Sector Lecturer 2006 - 2010 (4 years)

I was a lecturer of strategic planning, competitive advantage and sales techniques to students, health care and marketing professionals and health insurance companies in universities, national meetings of Management in the Health Sector and at DR3 Consulting.

DR3 Consultoria em Gestão e Marketing na Saúde Market Researcher February 2005 - December 2009 (4 years 11 months) São Paulo Area, Brazil

I am specialized in development and analysis of scientific market researches according to business' needs to identify customer perception of quality, involvement and purchase intentions (behavioral), including the following steps:

- Complete study of theoretical background relevant to the matter
- Hypoteses formulation
- Qualitative approach with structured and semi structured interviews
- Content analysis

- Conjoint analysis (quantitative approach): Pre test questionnaire development, including Likert (ordinal) scale customization, development of construct oriented questions in order to achieve internal consistency, internal and external validity

- Data treatment (outliers, missing values), transformation to adjust skewness and kurtosis, normality tests (Kolmogorov Smirnov), multicollinearity tests (Keiser Meyer Olklin) and ANOVA

- Statistical analysis (descriptives, correlations, linear regression, factor analysis) of pre test questionnaire and filtering of indicators to prevent multicollinearity and adjust number of relevant variables

- Questionnaire application and further statistical analysis to obtain internal, external, conceptual, statistical and convergent validity.

This methodology helps to identify which factors lead to a given customer perception of quality and future purchase intentions, so that businesses can adjust their strategy to leverage revenue, profits, increase customer satisfaction and his/her involvement with product or service.

Universidade Presbiteriana Mackenzie Substitute Teacher August 2008 - November 2008 (4 months)

I ministered classes in graduation, Accounting and Management field. I developed classes content, presentations and tests for the students and was a substitute teacher sometimes.

Brazilian Air Force 1st Lieutenant February 1993 - July 1997 (4 years 6 months) I was the head of Health Sector and responsible for dental care of military personnel, input purchases for Health Sector, military personnel training and PAMA security.

I was chosen by Air Force commanders to carry brazilian flag in cerimonies. First place in shooting competition with Military Police special forces.

Education

Brown University

Wolfram Research Summer School, Cellular Automata, Artificial Intelligence and Discrete Event Simulation · (2006 - 2006)

Universidade Presbiteriana Mackenzie Doctorate, Business Administration and Electrical Engineering · (2006 - 2009)

Universidade Presbiteriana Mackenzie Master's Degree Strictu Sensu, Business Administration and Electrical Engineering · (2004 - 2005)

Coursera - MIT Online Learning · (2016 - 2017)

Coursera - University of Toronto Coursera Online Learning · (2016 - 2016)