### Hello Everyone!

I'd like to present my current project in this document.

With my financial background in stock market trading systems, the founder of my previous company decided to propose a new challenge for me, to lead the building of a system to manage his stock portfolio that could make smart and fast trade decisions based on technical analysis. I am very proud to have conceived it from scratch.

After 2 years, this project became a software product named Put.Call.Bot and the founder started to offer our trading services to his wealthy friends and family offices.

Some strategies were developed in collaboration with 2 mathematician PHDs teachers from the Federal University of Santa Catarina.

# https://putcallbot.com/

Put.Call.Bot Quant Trade System Platform Since 2013 as JavaScript C# .NET Full Stack Developer



Put.Call.Bot is a software solution that evaluates quantitative analysis from real time Bovespa exchange market data, sending buy and sell signals to brokers according to the algorithmic strategy chosen by the trader.

By providing investment robots that operate 100% automatically, Put.Call.Bot positions itself at the forefront of the financial revolution, offering solutions that transcend traditional methods. These automated systems are designed to analyze real-time data, identify market opportunities, and execute transactions swiftly, all without human intervention.

This approach not only increases the effectiveness of operations but also significantly reduces the potential for errors resulting from impulsive or emotional decisions. The trust placed in Put Call Bot's sophisticated algorithms reflects the company's dedication to providing its clients with a safer, transparent, and more effective investment experience.

This automated trading system is a very powerful web platform that allows our clients to work from any web browser or device. It is designed to negotiate stocks, options, derivatives and future instruments in a low or high frequency trading way and manages day trade or swing trade positions as well.

The trader can work with virtual orders or set to route them to his broker, also one or more broker accounts can be saved and used.

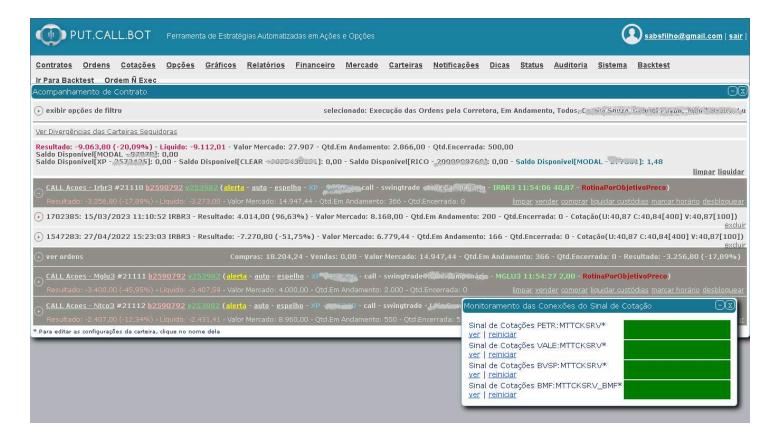
Our platform allows the trader to create, debug, test, optimize, and execute trading robots in an exclusive environment totally independent from the production server, and also a development server can be requested to safely build and test their algorithms.

When the work is done, all these strategies can be published to production in the real world environment. The main purpose of PutCallBot is to replace the hard work of following the market tick by tick giving time to the trader to evaluate better strategies for his portfolio.

When I started to design this project, I was inspired by the Renaissance Technologies Hedge Fund which was the first company using quantitative models derived from mathematical and statistical analysis in an Automated Trading System (ATS). Their Medallion fund has generated average annual returns of 66 percent. If you are even more interested about our project I recommend this book that tells the amazing story about Jim Simon, who is considered the greatest money maker in modern financial history.

The Man Who Solved the Market: How Jim Simons Launched the Quant Revolution Hardcover - Amazon Store

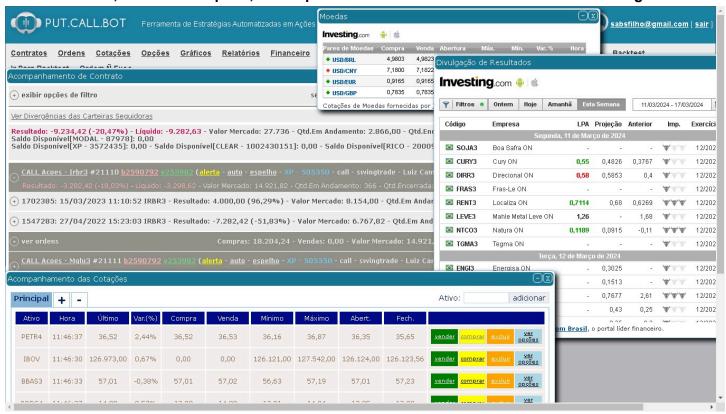
#### the system general concept FIREWALL PUBLIC DMZ PRIVATE NETWORK demilitarized zone AWS VPC c6i.large on demand Web Interface App AWS FC2 Resources FRONTSTAGE SERVER Trading Engine Backend User Records Database t3.micro 0 0 Web site SVN Server Health Monitor User Strategy SQL Database Broker Trading Signal Monitor Stock Market Monitor Shared File Repos. Audit Logs Order Transactions NoSQL Database Market Data Crawler Ticker History Persistence NoSQL Databas Strategy Data Mart CLIENT ONLINE ALGORITHM TRADING SYSTEM SERVERS Mobile & Desktop t3.medium on demand Web Interface App Trading Engine Backend User Strategy SQL Database Broker Trading Signal Monitor Stock Market Monitor INTERNET web crawler Audit Logs Order Transactions NoSQL Database BACKTEST SERVERS t3.medium on demand / spot Web Interface App Backtest Engine Backend User Strategy SQL Database Tickers History NoSQL Database BROKER TRADING SERVER t3.medium on demand STOCK MARKET CRAWLER SERVER Trading signal handler Backend **BROKERS** on demand Online market data web service AP Market data signal handler Backend BOVESPA **EXCHANGE** High Level PutCallBot System Design



### a day trade strategy using automation and the manual place order screen



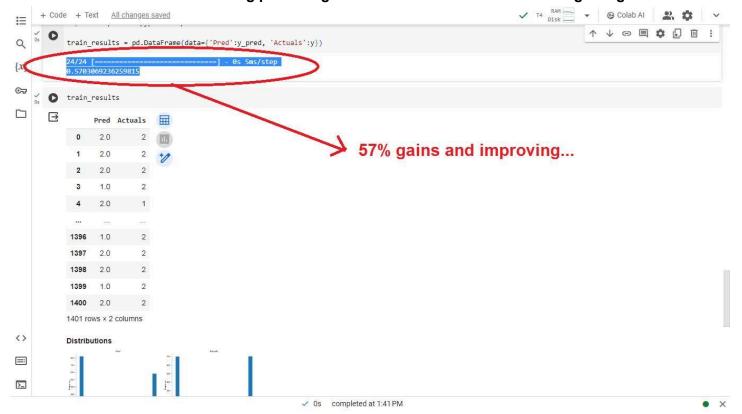
# market data, bid and offer price, online position data and more on the multi view trading screen



# portfolio results against many financial benchmarks by the strategy performance chart



# the future - machine learning predicting model with TensorFlow LSTM using Google Colab



**Put.Call.Bot Technologies** 



skills: C#, .NET, T-SQL, HTML5, CSS, Javascript, jQuery, WebService API, FIX Protocol, Subversion, SQL SERVER, IIS, AWS Cloud

Impacting real demanding users who are wealthy and high-profile banking customers, this Fintech project is a dream come true for people that love software engineering and problem-solving routine because of its technical challenges we face everyday. It is a real world sandbox in production, where I do a lot of research, learn and experiment new techie acknowledgments in countless use case scenarios, that can be applied beyond borders in many IT projects of companies around the world. So, I am sure I can bring value and a humble collaboration to my future partners, sharing thoughts and having an active listening approach to my colleagues opinions, growing a deeper connection based in empathy, respect and friendliness.

All the business logic implementations I try to apply some design patterns concepts detailed in the Gang of Four book, also I like to get inspired by some SOLID ideas and Domain-Driven Design to help non-coders to understand what I've meant to deliver. Before coding, I collect all kinds of requirements or specifications to

clearly describe and tell a good user story, a task or use case scenario. This procedure helps me continue improving the concept and also deliver small pieces to a business partner to follow its evaluation.

Besides the business logic in the backend side written in C#, for the frontend I also created an extensive JavaScript framework library to help build dynamic and responsive web interfaces, including dialog windows, forms, dynamic and smart spreadsheets, reports, interactive charts, and client-server communication consuming our REST API services.

Nowadays I am migrating some old modules that use legacy .NET web services to a modern microservice concept using Node.js and React.js. I recently got some proficiency certifications in the MERN stack that helped me get the support I needed to start this transition.

Recently, I started a personal project to use some Deep Learning techniques using the ML.NET Framework with the purpose of getting better results in our prediction models. For this project I started to use some libraries and models using Python, Pandas, Jupyter, Seaborn, Scikit-learn, Keras and TensorFlow coding in VSCode and Google Colab.

Before this Fintech, I also conceived another system from ground zero. It was an ecommerce platform for a freight forwarder startup. I hired 1 senior and 3 junior developers and outsourced the front end to Chop-Chop.org (Poland) and some backend procedures to the Tatvasoft.com (India) team. I also helped our Marketing Director to contract a digital marketing agency to set our SEO campaigns and a web design firm to create our visual identity and design our website. From this experience, I can assure you that I have the background to learn your context, research, reason, adapt a solution and maybe gather overseas support if necessary.

At this moment, I'm currently looking for the opportunity to work remotely in IT projects abroad as a dedicated individual contributor. So, let me learn about your problems and challenges. I really want to help your team searching for solutions that are cost effective. I always worked with limited budget constraints so I can bring something new and reason with you on how to approach a better implementation tailored for your context.

My hour is a commodity that your budget can take advantage of. As I work from the seashore of the wonderful City of Rio de Janeiro, Brazil, we can together be very happy with the currency exchange rates. So, it's definitely a win—win game for us!

Please send me a message if you want to talk about how we can team up.

E-mail

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Linkedin

https://www.linkedin.com/in/samuel-santos-engineer

Portfolio

https://sabsfilho.github.io/dev/

GitHub

http://github.com/sabsfilho