*I have been working within financial markets and banking since 2002, as a java developer, then a python developer, and now as Quantitative developer. There are many examples of black-boxes and for many reasons because the product is proprietary or the end user does not understand the code and then it does not need it, or copyrights protection of the code in the sensitive areas as Financial Engineering models or trading strategy algos. Almost everything within financial trading is automated, thanks to advances in artificial intelligence and machine learning. A black box in trading refers to the system that monitors the market, executes trades, and manages them without revealing the rationale behind its trading decisions. Basically, the exact specifications of the black-box trading system are not known, except to the person who created it. The source file, often kept by the developer, consists of lines of intricate programming code that define its operations, and those are governed by specific trading rules and guidelines. But the executable file that runs on the trading servers and computers simply executes the logic coded inside of it, which an outsider cannot know.*

*As example of ‘black box’ metaphor I would suggest a black box trading strategy. The black box trading strategy is also referred to as automated trading, algorithmic or algo trading, or quantitative or quant trading.* *A black box machine learning algorithm is used to describe machine learning models that offer you a result or make a choice without explicitly stating or demonstrating how they did it. What internal procedures were applied and how different considerations were weighted are not known.*

*Sources:*

*ISBN 978-1-83921-771-5 - Machine Learning for Algorithmic Trading. Predictive models to extract signals from market and alternative data for systematic trading strategies with Python*

*ISBN 978-1-316-51619-5 - Machine Learning and Data Sciences for Financial Markets. A guide to contemporary practices*

*ISBN 978-1-119-48208-6 - Advances in Financial Machine Learning*

*Hello to Everybody,*

*My second example for ‘black box’ metaphor is Black box credit scores. In the past the Credit scores is known as a scorecard approach. This means that a company is judged against a number of criteria, each chosen as an indicator of financial health. Common criteria include a company’s age, management structure and annual income.* *However, as financial analytics become more sophisticated, even this basic level of insight is no longer guaranteed.* *Machine learning algorithms have made it easier than ever to calculate credit scores. Computers can process millions of data points and generate complex risk predictions in a matter of seconds.*

*Adoption of ML in the banking sector can provide many benefits. ML makes prediction cheaper and easier which in turn reduce costs both for banks and consumers. However, ML black box algos also carries new challenges. ML black box algorithmic methods automate prediction in ways that can reduce transparency. Reducing transparency can increase risk if not properly appreciated and understood.*

*I am Plamen Stilyianov in London, Great Britain. I am currently working as Quantitative developer in BAML.*

*Predominantly developing pricing and risk models with Python using Financial Engineering maths and stats.*

*As ML and AI are heavily used in High Frequency (algo) trading, I find it as a good skill to have, which could be helpful in certain area and projects.*

*There are huge benefits to the ML and AI technology, but there’s also a danger of complacency. When credit reference agencies neglect the human element of credit scoring and let the machines take the reins, they can end up with little or no idea of how their scores have been calculated. These arcane results are known as “black box scores”, and they present a serious risk for companies.*