Research Challenge on Prediction of Credit Spread by Machine Learning

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Abstract

Super-resolution microscopy has become essential for the study of nanoscale biological processes. This type of imaging often requires the use of specialised image analysis tools to process a large volume of recorded data and extract quantitative information. In recent years, our team has built an open-source image analysis framework for super-resolution microscopy designed to combine high performance and ease of use.

Introduction

Abbreviation	Name of Variable	Variable Description
CS	Credit Spread	Credit spread of US investment grade corporate bonds (e.g. BofAML US Corporate AAA) over US Treasuries (e.g. 10-Year Treasury Constant Maturity Rate).
LEVER	Leverage	Long-term debt divided by total assets
R	Risk-free rate	Yield of 10-Year Treasury bonds.
SLOPE	Slope of terms	Yield on 10-year Treasury bonds minus yield on 2-year Treasury bonds,
VIX	Volatility Index	Average implied volatility of eight near-the-money options on the S&P 100 index?
RETSP	S&P 500 index return	Return on the S&P 500 stock index (frequency?)
JUMP	Change in slope of Volatility Smirk	A large size jump on S&P 100 index, calculated using out-of-the money puts as well as at- and in-the-money call options?

Methodologies

Bibliography