

Graduate Recommendation Letter

As the group head, I am delightful to write this letter of recommendation for XXXX, my former intern in Statistical Arbitrage Group, CITIC Securities from August to December in 2014. Our group primarily focuses on arbitrage strategy construction in Chinese A-share market and future contract markets using statistical and mathematical tools. With the demanding nature of the job, we only admit full-time analyst and intern with highest intellectual capability. Among the nine interns we had, eight are graduate students (three are Ph.D. candidates) with two current students of University Chicago. XXXX is the only undergraduate students and probably the only one whose first major is not quantitative related. While among the competitive pool, XXXX performance was highly outstanding, or at least on par with the best graduate student majoring in financial engineering.

During the four months, he completed high-quality work ranging from strategy construction, strategy optimization and risk analysis. His strong mathematical and statistical capability made him contribute substantially to the projects he participated in. During convertible bond (CB) volatility arbitrage strategy construction project, XXXX took a leading role in CB's pricing and signal construction. My former intern once applied BS Model into pricing but failed to fully simulate the market movements. XXXX, however, after abundant literature studying, introduced the Tsiveriotis and Fernandes Model in pricing CB, and furthermore, added a Possion Process to the model's SDE. This adjusted model can calculate precisely CB's daily delta compared with BS Model and well captured Chinese CB market's downward revision provision, and therefore contributes greatly to the accuracy of our final strategy. And in the signal choosing part, XXXX applied Local Volatility Model, EGarch Model and other momentum signals, and employed Adaptive Boosting Algorithm to optimize them. This CB strategy finally achieved historically annual 16% return with Sharpe Ratio over 4.8, which is very robust among all strategies developed by interns.

Besides, XXXX possesses great merit of quick learning capability. He can grasp the essences of complicated models in a short period of time and effectively make use of them into application. In the optimization of our market neutral strategy to classify stock pool into groups for better matching a score function with different parameter, our team tried nearly all possible machine learning tools. Though, at the beginning, XXXX is not acquainted with some of the methods, he could handle them quite smoothly with only several day's self-learning. Later, he independently back tested historical data using various types of clustering, discriminate analysis, SVM and artificial neural network, and figured out some detailed application problems such as the sensitivity of each parameter in SVM and the optimal sample sizes in cross validation. His analytical report, which is even as good as the report generated by graduate student here, provided excellent assistance to our team in classifying 42 stocks out of the whole stock pool.

As for teamwork, XXXX is an efficient on-the-ball team player. During his internship, he also assisted department's Fund of Fund (FoF) team in the risk analysis. Our FoF aims to invest Chinese hedge funds' quantitative strategies, and risk analysis of each strategy is an important part of the final decision making process. XXXX has quite a good sense of measurement of risk exposure. He efficiently finished what we expected, for example using hypothesize testing methods and multivariate statistical skills to explore the technical ratios and market size exposure of strategies. Moreover, he proposed to consider the industry risk exposure of each strategy, and applied multiple regression skills to test the relationship between strategies' daily net value with each industries' indexes. His ideas were pretty enlightening and led the whole team to reach the final decision in strategy choosing. Later, in order to boost team's efficiency in evaluating similar strategies, he wrote several open source code templates in Matlab.

As for further improvement, professionally speaking, at the beginning of his internship, XXXX made some minor mistakes, especially in some data processing tasks. But it's pretty comforting to see that he corrected this with great efforts after I pointed it out. He became pretty detail-focused later while still kept high efficiency. I hope that he can keep this current track and continue working likewise in the future.

In sum, needless to say, XXXX is a prospective young man with great passion and capability. I would love to continue watching him achieving further career development with high expectations. I think XXXX would be a rare catch for any graduate program and I recommend him to your MFin program with enthusiastic and full support.

Kind Regards

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