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Adventures in Economics

April 4, 2020

<div align="center">Princeton Fintech and Quant Conference</div>

Financial technologies, or Fintech, plays an essential role in the contemporary finance industry. It improves the efficiency of providing financial services to individuals and businesses. There are various applications in the Fintech industry, such as mobile banking, investment apps, and cryptocurrency. The existence of such applications not only creates convenience for individuals and businesses but also affects the services provided by traditional financial institutions. In my opinion, quantitative finance is another crucial branch of the financial industry. People working in quantitative finance take advantage of mathematical models and computational tools to provide services in the financial market. I believe the relationship between Fintech and quantitative finance will become closer in recent years, which is one of the reasons why I attended the Princeton Fintech and Quant Conference at Princeton University.

In addition to the first reason I mentioned above, my career and academic goals are the second reason why I wanted to attend this conference. The finance department at Princeton University provides a well-known master's program in finance. This program is ranked #1 by QuantNet in the 2020 ranking. The Fintech and Quant Conference at Princeton University allows me to gain knowledge about the master's program and detailed knowledge about a career in quantitative finance. The conference covered topics from high-frequency algorithmic trading to model construction and validations. The committee at the conference

invited leading experts from academia, industry, and the government to provide multiple workshops that were related to financial technology and quantitative finance.

Because of the impacts from the coronavirus, the conference switched to an online format, on Zoom. Even though the meeting was held online, it provided a lot of amazing workshops and activities, as I expected. There were two main segments: keynote speakers and seminars held by expert leaders. There were 15 workshops taught by experts from academia to industry. Individuals were able to choose five workshops out of the 15 to attend due to limited time.

The topic in the first workshop was "The causality in finance and beyond." Ioana Boier, the Head of Quantitative Portfolio Solutions at Alphadyne Asset Management, talked about the modeling of causal and effect relationships in the financial market. Translating the macroeconomic perspectives into trading ideas was also covered during the seminar. The second seminar I attended was a workshop taught by Arun Verma, Quantitative Researcher at Bloomberg. The subject was about quantitative trading strategies and asset pricing by using machine learning technology. This seminar was my favorite one. The third workshop was an introduction of blockchain technology on emerging asset classes from Monika Proffitt. She talked about how to use blockchain technology to trade real estate assets in the housing market, which is different from the traditional method of buying and selling real estate.

Marshall Chang, the Founder of A.I. Capital Management, introduced the use of deep reinforcement learning technology in the foreign exchange market, which was the fourth workshop I participated in. He talked about the potential of deep reinforcement learning technology to optimize the methods in quantitative trading, which was an exciting opportunity and research topic for me. The last workshop was by Olga Kokareva, and addressed opportunities for quantitative trading and financial technology during a difficult

period. She provided suggestions for young people who wanted to pursue a job in the quant finance and financial technology industry, and this information was especially handy for me.

There are several unforgettable moments from Arun Verma's workshop that I would like to share. He introduced some interesting points about the use of advanced technology in finance. Firstly, there are five main categories of machine learning technology in finance: regression, classification, ranking, grouping, and anomaly detection. Each of them is utilized in different branches of the financial market, which increases the efficiency of providing service to customers. For instance, anomaly detection plays a vital role in identifying the fraudulent transaction of credit cards, which helps financial institutions avoid substantial monetary loss. In addition to this, Arun introduced a performance analysis of an AI trading strategy in the financial market, which impressed me a lot. I always believed that an AI-driven trading strategy was more efficient and profitable than a human-trading approach because AI can avoid the emotional effect which poses difficulties for humans to adjust. However, my belief was contradicted by Arun since he showed that the AI-driven trading strategy had less return than the traditional approach based on a portfolio performance from 2010 to 2016. In other words, AI has not solved stock trading, which is a great potential research topic for my honors thesis.

Another notable point he mentioned is the application of natural language processing in the financial market. Natural language processing technology makes it possible for people working in the financial market to take advantage of non-financial data (emails, survey data, social media, and the news), which helps retrieve more useful information to make a decision. It is a big step for the finance industry because access to extra information is a vital step to get a profitable return. Last but not least, the lecturer also mentioned the importance of identifying the relationship between correlation and causal network. We see much correlation among different variables, but it is hard to determine the effect of the causal

network. Causality is more meaningful than correlation alone because it is easy for us to identify a movement pattern in the financial market. This problem may also be an excellent potential research focus in this day and age. I must say that Arun's workshop mentioned a lot of exciting and meaningful research paths in the field of finance.

The second workshop that impressed me the most was from Olga Kokareva. At the workshop, she talked about opportunities for people who wanted to enter the quantitative trading industry, such as required skills, resources, and a potential internship. She mentioned that the combination of data science and business is a promising direction right now since the demand for people having data science skills and business concepts is high, but the supply is still limited. Data scientists have the ability and expertise to deal with alternative data. Business and investment specialists are good at understanding marketing data and business concepts. She said that a person having both skills is very popular in the labor market. This gave me motivation for having a science degree in economics and statistics. Another interesting point she talked about is the role of a data vendor. Investment companies, such as hedge funds, asset management, and investment banks, spend a considerable amount of money on getting alternative data. More data means more extra information about the market. Therefore, data vendors are also a profitable and promising career choice in this day and age.

Last but not least, I received some useful recommendations about entering the quant trading and fintech industry during the panels section. John Arabadjis, the Head of Macro Strategy and Analytics at Bank of New York Mellon, suggested several necessary skillsets in the quantitative trading industry for undergraduate students, such as statistics, computer science, and communication. In addition, he said that if someone did not have a quantitative major, obtaining a master's degree in financial engineering or mathematical finance may also be helpful towards entering the industry.

To summarize, I learned so much throughout the entire conference and also identified a clear direction about my career and academic goals. Even though this was only a one-day online event, I met many people from academia to industry, and also made several significant connections. Zachary Lee, a student at the University of Rochester, is one of the friends I made during the conference. This fantastic opportunity would not have been possible without the support of the generous donation from the fund sponsor of Adventures in Economics. I am very thankful for being able to be the recipient of Adventures in Economics.