

Academic Statement of Purpose

I am now a second-year student majoring in Quantitative Finance & Risk Management program. And I am going to apply for Ph.D. program related to financial engineering after my graduation so I'm very glad to have opportunity getting into machine learning related programs early.

I got in touch with doing research since undergraduate study. Our team did a systematical research for a whole year. The main idea is to segment 3D surfaces efficiently which has been applied in real world a lot. From the very beginning we only have some ideas about current status of research on image segmentation, and later with reading papers and gathering informations we came up with a new question focusing specifically on how to effectively segment 3 dimension surfaces. During that time I also wrote application, prepared presentation of the national college students' project and successfully got funds to help with continuing our research.

Then during my graduate study, I worked with professor Romesh Saigal to help making the paper *Predicting the Unpredictable: Stock Markets in the Face of Brexit* more perfect. Our team used a new set of raw data to replicate the method in this paper to test information flow hypothesis which is to predict low-value stocks with high-value stocks' information. And we also compared different machine learning methods such as SVM and DNN to figure out the efficiency of different methods. Also, I read many deep learning related papers to help modifying interpretation of introduction, models and result analysis in the paper. This helps me a lot on gathering key ideas and motivations on research quickly from the abstract and introduction of a paper.