

# NAVIGATING THE SEAS OF OPPORTUNITY: PLANNING YOUR POST PHD CAREER

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CUHK SIAM Student Chapter Annual Workshop

# Who I am

- 1 out of 5 founders of SC
- graduated in 2019
- 4 years postdoc (in College Station TX and HK)
- received a tenure-track offer (SH) but withdrawn
- now working in finance industry

# Date back to 2018



For Favour of Posting

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## SIAM Student Chapter Seminar Series

### *Machine Learning in Finance*

*Gary Kamtekar*  
Head of Machine Learning Engineering, Bloomberg;

*Iat-Chong Chan*  
Research Scientist, Bloomberg

**Abstract:** Machine learning is changing our world at an accelerating pace. In this talk we will discuss how machine learning and artificial intelligence is changing finance, from a perspective of a technology company which is a key participant in the financial markets. We will give an overview of the evolution of several flagship Bloomberg ML and AI projects, such as sentiment analysis, question answering, market impact prediction, social media monitoring, and more. We will also discuss how our team approaches the challenge in delivering machine learning solutions to problems of finance with an example of how our social topic classification system was built from concepts to actual product. We will also highlight issues such as interpretability, differential privacy and nonstationarity. We will also discuss some possible future directions for the applications machine learning methods in finance. The talk will end with a Q&A session.

**Date:** August 31, 2018 (Friday)  
**Venue:** Room 222, Lady Shaw Building,  
The Chinese University of Hong Kong, Shatin  
**Time:** 12:30pm – 1:30pm

*All are Welcome*

# Date back to 2018



# What is this talk NOT about

- Recruitment (offering you a job)
- Any specific aspect
- Disclaimer: be critical to every word I say

# What is this talk about

- Personal (but highly biased) sharing
- Point out some general career options
- Pros and cons
- Help explore one self
- Open discussion

# Career

- noun: job or profession one does for a *long period of their life*
- should (if not must) be something one enjoys to do?
- skills or knowledge valued and recognized
- payoff or satisfaction?
- work location, stability, and stationarity?
- $\Rightarrow$  a maths student may also think of his/her career, right?

Where can a math student work? and who values him/her most?

# First option: working in University!

Pros:

- well qualified skills and knowledge
- minimal transfer learning
- (sounds) flexibility in work location, contents, and other aspects
- seasonality of job application cycle
- social status?

## First option: working in University!

Cons:

- usually low payoff compare with other business (except HK?)
- relatively (if not highly) competitive to get a position; uncertainty
- very (if not extremely) slow-pace environment (review, interview, etc)
- demotivated / emo? '*Your research topic is not interesting.*'
- You need referrals and endorsement (extraverted vs introverted)
- For postdoc: age and experience
- Two-body problem?

## Second option: academia but not University

Examples: national labs in US, Uni-affiliated labs?

Pros:

- similar work environment as in University
- more direct research impact
- (a bit) faster pace
- higher payoff

## Second option: academia but not University

Examples: national labs in US, Uni-affiliated labs?

Cons:

- quasi-autonomy of work contents (align with research needs)
- funding sources
- compliance constraints
- work location (few in HK but some in US/Mainland/Euro)
- referrals and endorsement (even more)

## Third option: industry-affiliated institutions

Examples: Byte-dance, Red (aka XHS), or other companies of Fin/Tech

Pros:

- A better world to explore
- more business impact
- (much) faster pace and feedback
- (possibly or potentially) much higher payoff
- work experience becomes more valuable and recognized!

## Third option: industry-affiliated institutions

Examples: Byte-dance, Red (aka XHS), and other Fin or tech uni-corns

Cons:

- transfer learning and continuously learning new skills (think about why they should hire a math PhD)
- semi-autonomy of work contents (align with business needs)
- job security / stability?
- more compliance constraints

# What if I were a (math) PhD?

- Achieve right amount of research outputs asap
- Then internship (x3!): keep trying, build skillsets & track records
- Share (clearly) your thoughts (verbal, seminar, blogs, vlogs, ...)
- Idea is worthless; execution is everything
- Talk to people with different background and industries
- Think outside the box: a math student no need to be a professor!