January 29, 2021

Applying for: **PhD program**

Dear CUHK professor(s),

我是 1989 - 1994 的本科旧生，后来因为 GDP 太低被踢出校。
之后我去了美国再读多次 undergrad.
2004年回港，我开始独立研究 AGI (artificial general intelligence)
其实我係好想返回学术界，但因为以往 record 太差，
在香港冇大学收我，才被逼做 independent researcher.

我自细 IQ 不是很高，甚至很可能低於 100
很多时我无法顾及各种功课和考试等事务
但我是一个有很高 ambition 的人
这些年来我是用努力不懈换取一些成果
我觉得，
既然一个聋的作曲家可以写出最优美的音乐
一个盲的数学家发现了最美的数学公式
那么，人工智能也有可能是由一个智力不够的人发明

二十多年后回来申请 PhD，我觉得很感慨，

My CV

- In 2019 I discovered that logic structure can be imposed on deep learning by using **symmetric** neural networks, which emulate the permutation-invariance of logic propositions.

- In 2017 I discovered a connection between AI and quantum mechanics: the learning problem in AI is equivalent to solving the Schrödinger equation. But the key idea leading to this insight, ie. the Hamilton-Jacobi-Bellman equation, is already well-known in the literature.
- around 2014 I turned towards neural networks for AGI, at the time "deep learning" was not yet very popular (ReLU was demonstrated in 2011, Word2Vec was invented in 2013)
- 2012 my first and only published paper so far: "Fuzzy-probabilistic logic for common sense", in AGI Conference, Oxford.
- from 2004 till 2014 my research focused on classical logic-based AI and I implemented several logic engines
- around 2001-2003 I self-taught neuroscience
- 我在 GitHub 上有不少项目，包括：
  - a few logic engines (in Lisp, Scala, Clojure, etc)
  - implementation of rete algorithm (cloned from others and improved by me)
  - genetic algorithm for learning logic rules
  - simple deep learning experiments (using TensorFlow)
  - neural network experiments (C++)
  - a book draft, "Introduction to Strong AI" (Latex)
  - symmetric neural network tests (TensorFlow & python code)
- 2004 graduated from Hofstra Univ, NY, USA, with BA degree in computer science, chemistry, and English
- 1994 majored in Computer Science in CUHK
- 我细个 12 岁时玩电脑已经几叻
- 1971 Born

References