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.

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