

Artificial Intelligence – The Mind in the Machine

Asking the Right Questions

J G Lynn

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This book would not have been possible without all of the people that are much smarter than I that have taken the time to explain things that were beyond my comprehension and to correct my misunderstanding.

About the Author

James Lynn is a philosophical engineer with thirty years of experience in the software industry. He has spent the past few decades studying the implications of a world in which human minds coexist with machines with minds and the challenges that come with such a world. He has written papers and essays on topics including search algorithms, secure token algorithms, and consciousness in machines including the book *Free Will in Machines and Artificial Intelligence – The Mind of the Machine*.

His areas of interest are intelligence, logic, security, predictive analysis, and computer enhancement of creativity. He holds a Masters in Cognitive Science from the University of Pennsylvania, an MS in Computer Science from Kutztown University, and a BA in Philosophy from Kutztown University.

Jim is also a licensed commercial pilot and Certified Flight Instructor. In his spare time enjoys flying anywhere for any reason.

Jim Lynn is a certified Teacher (Shifu) in Pai Lum Kung Fu and was adopted into the Pai family by Li Lung Pai, the #1 Grandson and Senior Student of the late Grandmaster Daniel K. Pai. In 2000 he created the Forest Dragon School and Lin Long Gong, or Forest Dragon Exercises, a system of techniques and exercises intended to introduce students to the fundamentals of Pai Lum.

Introduction

In my previous book, [Free Will in Machines](#), I focused primarily on whether or not machines are capable of thought, consciousness, and free will. The metaphysical concepts of mind and consciousness have long been a hot topic of debate in philosophical circles and in recent years these debates have spread to other disciplines such as psychology, neurology, and computer science. I have studied these topics since the 80's when I was a Philosophy undergrad and since then much has changed in the way we view consciousness and the notion of a mind. I believe we have made distinct progress in these and related areas which have come to be known collectively as cognitive science. Having said that, I don't feel like the progress thus far is getting us significantly closer to any conclusions that will directly affect our lives in the next fifty years. For this reason I have decided to get off what I like to call the crazy train and get on the bullet train (at least for now).

In this book I will lay out what I believe will become the trajectory of the shift in work, responsibility, and power from the human race to something else. What is the something else? I have chosen not to use a catchy label such as the silicon race or cyber-race because in my mind at least I would expect a race to be some biological species which as you might guess is not what I am suggesting. In fact I won't use term which includes the word silicon at all as future machines may not be silicon based. I have elected instead to refer to this new class of beings as *autobots*. I choose this term not because it is the most accurate or even the best term but because it emphasized the two aspects of these beings that I feel are most relevant to this book. First, they are autonomous. They can act own their own without input or guidance from a human actor. Second, they are bots, which is to say they are some form of robot. This second statement turns out to be somewhat

inaccurate, because these *autobots* may not even have anything that resembles a physical body, but more about that later.

By now you might be starting to feel that this book is another doomsday prophecy, not unlike the books written which claim that mankind will see its end in 2012 according to a Mayan prophecy. While I do not discount the possibility that the advance in technology may ultimately cause the demise of humankind, I prefer to see this as an exposition on what I believe are the things we need to be aware of in order to maintain control of our own lives, our own race if you prefer, in the face of oncoming advances in this new breed of machines.

The book [The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies](#) by Erik Brynjolfsson and Andrew McAfee discusses many of the same issues that I have been considering primarily from a socio-economic perspective. Although this book has a slightly more technical slant to it, the most important consequences are certainly both social and economic.

It is worth citing the following three general conclusions which have emerged from their research:

The first is that we are living in a time of astonishing progress with digital technologies— those that have computer hardware, software, and networks at their core.

Our second conclusion is that the transformations brought about by digital technology will be profoundly beneficial ones. We're heading into an era that won't just be different; it will be better, because we'll be able to increase both the variety and the volume of our consumption.

Our third conclusion is less optimistic: digitization is going to bring with it some thorny challenges. This in itself should not be too surprising or alarming; even the most beneficial developments have unpleasant consequences that must be managed. The Industrial Revolution was accompanied by soot-filled London skies and horrific exploitation of child labor. What will be their modern equivalents? Rapid and

accelerating digitization is likely to bring economic rather than environmental disruption, stemming from the fact that as computers get more powerful, companies have less need for some kinds of workers.

Brynjolfsson, Erik; McAfee, Andrew (2014-01-20). *The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies* (pp. 9-10). W. W. Norton & Company. Kindle Edition.