

# **Thesis Project Portfolio**

## **A Neural Network Search Engine**

(Technical Report)

## **Deep Learning Considered Harmful?**

(STS Research Paper)

An Undergraduate Thesis

Presented to the Faculty of the School of Engineering and Applied Science

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In Fulfillment of the Requirements for the Degree

Bachelor of Science, School of Engineering

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## Sociotechnical Synthesis

Deep learning is one of the most important rising technologies of the decade. It impacts the ways in which people live in some subtle, some profound ways. As with any exciting new technology, there are things to be feared from it. As someone with a computer science background, my biggest fear is incompetence. Having once been one, I know the overconfidence of the new, optimistic programmer all-too-well. When something as complex and powerful as deep learning becomes widely available, naturally it will fall into the hands of those who will misuse it, not out of malice, but out of ignorance. In the *Deep Learning Considered Harmful?* I take a critical look at the ways in which the media hypes up technology, and the ways in which this causes people to misuse it.

On the other side of the coin, though, deep learning is fascinating and I wish to learn more about it. In *A Deep Learning Search Engine* I examine the innards of a number of vast deep learning programs, for the purpose of potentially improving the field. The good thing about deep learning being so accessible is that there are now a number of publicly available neural networks that anyone can make use of. In my technical report, I define a novel way in which this can be done.

This is the trade-off: on one hand, progress, at speeds rarely seen in the history of mankind. On the other, consequences, some big and dangerous, some small and annoying.