

Artificial Intelligence and Machine Learning

(6CS012)

BLOOD CANCER DETECTION

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# Finding a research topic

Just over a month ago, I did what seemed like a small research at first: a mine Convolutional Neural Network (CNN) revealed something I did not expect. Yet the more I researched, the more I noticed that I had witnessed the beginnings of a break in the base of CNN design and a first hint of a brand-new form of CNN.

The project i.e. Detection of Blood Cancer is the result of approximately a month of research I have done to build the latest form of CNN architecture. I have never imagined it to take this long, but I've learned vastly more than I ever felt imaginable, and in fact what I have done now touches almost existing types of blood cells and quite a bit besides.

According to the Leukemia & Lymphoma Community, one adult in the U.S. is infected with blood cancer around every 3 minutes and an approximate number of 174,250 individuals in the U.S. are predicted to have leukemia, lymphoma, or myeloma in 2018. The projected reported diagnoses in 2019 was about 61,780 and the percentage of all current cancer cases is 3.5 percent, according to the National Cancer Institute. As in the case of acute leukemia, the individual died within a few months if the treatment is not performed in a specific period. And identifying cancer in the early stages is very important for managing this type of cancer or any other type of cancer.  It takes more time and effort to do the detection process by technicians manually and it costs more with the help of the instrument.

The aim of this research is to learn our capacity to analyze various CNN architecture and operating processes focused on the identification of blood cancer and acquire information about the specific parameters and hyperparameters that make up a complete system.

The research objectives are:

1. Getting the information by proper research
2. Develop a system that can automatically detect cancer from blood cell image
3. Able to visualize the block diagram of the CNN architecture
4. To configure and reconfigure the model made by the aggregation of the blood cell images

It has certainly taken me a month to come to terms with the conclusions I have reached. And while I hope I have put into my research and project will make it easier for others. Some of the research strategy guide for finding quality research are listed below:

1. Consider the scope of my topic
2. Locate background information
3. Identify information needs
4. Analyze and adjust research strategy

For me what has always been most important is the actual process of research. For I know of nothing exciting as to glimpse for the first time some new and basic truth.