

Statement of Purpose

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Solving problems using Machine Learning algorithms are always pleasant to me. With the intention to working with machine learning algorithms, I would like to do my research in the field of Computer Vision and Machine Learning. To accomplish my goal, I want to pursue an MSc from a top notch School of Computer Science. I reckon that pursuing an MSc is not only achieving a degree but also delving deeper in the field of Computer Science.

My research interest lies in the area of Computer Vision where machine learning algorithms plays a vital role. During my graduate study, I would like to give emphasis on analyzing real world images using machine learning algorithms. To be precise, I want to do my research on analyzing videos to extract information from it.

In regards to my interest, my had completed a course on Digital Image Processing during my undergrad. In addition to that, I had completed a course on Neural Network and Fuzzy Logic. Recently, I have started a course on Machine Learning by Andrew Ng in Coursera.com where I completed almost five weeks.

I completed my undergraduate thesis on Natural Language Processing where I have applied machine learning algorithms. To solve Algebraic Word Problems, Semantic Parsing and Reasoning were used to ground the problem text into containers, quantities, and entities. Generating equation tree is an NP-Complete problem that was solved by Integer Linear Programming. From the equation trees, features were extracted to train a local and a global classifier model. After that, to find the candidate equation from the generated equations, probabilistic scores from the local and the global classifier models had used. Backpropagation neural network algorithm was used to incorporate the probabilistic scores of the local and the global classifier models with weights. Moreover, I had worked on Sentiment Analysis to find positive and negative emotions from the public comments. Term Frequency-Inverse Document Frequency (TF-IDF) and Truncated Singular Value Decomposition (TSVD) were used to vectorize the text reviews and to reduce the dimension of the vectorized data. However, in those two research projects, I had noticed that the performance of the classifiers seems variable. Thus, it increased my curiosity to investigate the nature of the algorithms they have.

However, after ten years, I want to see myself as a successful researcher in the field of Algorithms and willing to work as an academician in a reputed institution. With this aim in mind, I realized that I need to gain more expertise and exposure to an excellent learning and research environment and have to pursue an MSc degree in my interested field.