Saeed **Iqbal**

Deep Learning Scientist

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"Make the change that you want to see in the world."

Teaching and Research Statement

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Teaching

My first teaching experience was in a formal setting during my intermediate (HSSC) years. I taught, prepared laboratory sessions and gave tutorials to 2nd Year's students organized by EGM College, on C++. This was a challenging and graceful experience for me to present my most favorite language upto 120-member audience. After this tutorial session, I realized that teaching is a complete science as well as an art. The movie actor has some fictitious script and the teacher has some realistic script. Especially in computer science, different fields are merging in it and this two-fold cosmos becomes much more apparent with practicality and theory. In computer science, I believe that without conveying theoretical or mathematical concepts, no one can grasp the detail or low level of programming. During teaching computer science, I have converted my commercial market experience into a dramatic and enjoyable concept. I am also interested in developing innovative and cutting edge technologies such as Deep Learning, Optimization of Machine Learning algorithms courses that are applicable to sustainability in modern computer science. Finally, I propose a graduate level technical communications class. Topics would include giving technical presentations, and technical writing and reviewing, and an assignment to prepare an nvidia, facebook like fellowship grant proposal. Although my experience is in the context of Artificial Intelligence and Deep learning, the class could be thought of as undergraduate research program development as well as practice at professionalization for students.

I cultivate the following attitudes in students who complete coursework or research with me:

1. Demonstrate understanding of rigorous mathematical tools for design/analysis, (Teach others)
2. Exhibit audience driven communication strategies, (Justify and explain the importance of research).

Research

My research interests lie primarily in working with deep learning methodologies for integrating and analyzing large collections of multi-modal medical images and object detection/tracking. I began my research career back in 2009 in security on the smartphone platforms, specifically Android and was working on usage control and attestation of this immensely popular smartphone software stack. During graduation, I have completed and delivered some machine learning based applications. After that my interests are developing towards machine learning and deep learning models to aid medical image analysis for tumor detection. I have a vast experience working with radiology images and the deep learning techniques, I have hands-on experience include regression, classification, feature extraction and reinforcement learning, convolutional neural networks (CNN), Fully connected neural networks (FCNN), Recurrent neural networks (RNN), time-series analysis, supervised and unsupervised learning etc. My PhD research also lies in medical imaging analysis using deep learning techniques and I am planning to continue my post-doc research in the same area.

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