MRyze: A Web Application that Analyzes MR Images to Detect and Segmentate Brain Tumor For Both Doctors and Patients

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According to the World Health Organization, cancer is the second-leading cause of death in the world. Cancer refers to any one of a large number of diseases characterized by the development of abnormal cells that divide uncontrollably and have the ability to infiltrate and destroy normal body tissue. If this uncontrolled development happens in the brain, it is called brain cancer and it is the cause of brain tumor which is a mass of abnormal cells in the brain. Brain tumors are the second most common anomaly in children and it is more common in adults. Most important factor in cancer treatments is early diagnosis but there is not any early diagnosis method for brain tumor because brain tumors are very hard to diagnose before it grows too much and starts a mental disease or paralysis therefore potential brain tumor patients need an urgent way to get diagnosed early, easily and cheaply. So we developed a deep learning model from labeled data, which can detect and segmentate brain tumor with supreme accuracy rate at patient's unlabeled data. We created a web application with this model that can be used on both mobile phones and desktop computers for doctors and patients. With this application's help MR images can be analyzed in seconds for very low maintenance costs. So people have a chance to get early diagnosis at regular MR checkups and save their lives.

Awards Won:
Oracle Academy: Award of $5,000 for outstanding project in the systems software category.