

EEE 473-573 – Medical Imaging Project Proposal

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In this project we will simulate MRI. We will be reconstructing MRI images both in ideal conditions and with consideration to non-idealities such as chemical shift, T2 weighting. While building the simulator we will experiment with and compare the effects of these non-idealities and expand upon this on the final report. As our dataset, we intend to use Brain Web dataset that is given in the project prompt. BrainWeb: Simulated Brain Database (<https://brainweb.bic.mni.mcgill.ca/>) contains simulated brain MRI data. Full 3-dimensional data volumes have been simulated using three sequences (T1-, T2-, and proton-density- (PD-) weighted) and a variety of slice thicknesses, noise levels, and levels of intensity non-uniformityⁱ.

ⁱ <https://brainweb.bic.mni.mcgill.ca/>