

Senior Design Project Report
CSE/EEE/ETE 499B

[FastMRI : Accelerating MR Image with AI]



Submitted By

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Supervisor

Name – DR. Mahdy Rahman Chowdhury

Position- Associate Professor

ELECTRICAL AND COMPUTER ENGINEERING

NORTH SOUTH UNIVERSITY

[SUMMER 2021]

Agreement Form

We take great pleasure in submitting our senior design project report on “Fast MRI.” This report is prepared as a requirement of the Capstone Design Project CSE/EEE/ETE 499 A & B which is a two semester long senior design course. This course involves multidisciplinary teams of students who build and test custom designed systems, components or engineering processes. We would like to request you to accept this report as a partial fulfillment of a Bachelor of Science degree under Electrical and Computer Engineering Department of North South University.

Declared By:

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[Fast MRI]

[Abstract]

Magnetic resonance imaging (MRI) has become one of the most common terms in medicine as well in our daily life. Something that is common in our life plays a very significant role. This important MRI is very expensive and slow. Our mission and vision were to make a fast MRI process where anyone can get proper facilities with this new technology. Our project method will show how fast anyone can get an MRI. Even it does not need a lot of money. With Laplace transformation, we made this project, and surprisingly the result was great. Although fast MRI was made before but our method is totally new and the result is very precise. The majority of these methods require the respective sampling patterns in training, which limits their application to a specific problem class. We propose an iterative reconstruction approach that incorporates Laplace transform. Our main goal is to make our life easier, faster in an inexpensive way.

Github Link: <https://github.com/kazishuvo22/fastMRI-Reconstruction>