Amber’s Script of Part I problem

Hello, and thank you for watching this video. We are a team of students from QUT with a strong focus on using data and modelling to solve real healthcare challenges.

Our goal was not just to develop working solutions, but to build methods that are efficient, interpretable, and ready for integration into clinical workflows.

The project is split into two parts: Part I focuses on brain MRI analysis, and Part II applies similar techniques to image-based feature extraction. Let’s begin with Part I.

In Part I, we used Diffusion Tensor Imaging, a specialised MRI technique

DTI works by tracking how water diffuses through brain tissue—information that reflects the brain’s structure at a microscopic level. Using signal data from 64 directions, we computed a 3×3 diffusion tensor at each voxel. This tensor shows how water spreads in 3D space.