# **5. Impact**

## **5.1 Use case scenarios and target audience**

The application offers a new way to MS diagnoses and management leveraging the use of deep learning technologies. Neurologists, medical researchers, and healthcare professionals will benefit from its capability to provide fast and accurate classification of MS cases. As the most dangerous thing about MS disease is it can lead to varying degrees of disabilities over time, the need for fast and accurate results is at its most. The application will reduce the time and effort required for accurate disease identification which in the end will prevent the disease progress by providing the early treatment and enable doctors to take the right actions about each individual case. Another rising problem with MS disease is the lack of healthcare professionals with specialized knowledge and experience in diagnosing and treating multiple sclerosis as well as the geographical or logistical barriers that limit their access to specialized healthcare professionals. Hence, having a mobile application that utilizes AI algorithms and provide accurate and fast results which anyone could simply download will cover this gap.

## **5.2 Innovative aspects**

Our application brings modern software technologies to the field of neurological disease classification by integrating machine learning and deep learning algorithms. These advanced techniques adhere to the smallest details while classifying any data, allow for nuanced pattern recognition, enhance the accuracy of diagnosis, and reduce the amount of time needed to diagnose each case and overcome the scarcity of healthcare professionals. The application aims to provide more objective and accurate information to facilitate decision-making by doctors, neurologists, medical researchers, and healthcare and, above all, reduce waiting times before receiving a final diagnosis.

## **5.3 Software accessibility**

The software is designed with accessibility in mind, ensuring an intuitive user interface for healthcare professionals with different technical backgrounds to ensure they have the best user experience.

## **5. 4 Future research directions:**

Our project opens avenues for future research by raising pertinent questions. Areas such as refining the model with additional patient data, exploring predictive analytics for disease progression, and investigating the impact of environmental factors on MS development present exciting prospects for further research and investigation.

## **5. 5 The added value to existing research**

The application contributes significantly to existing research by providing a more efficient and accurate tool for MS classification. Its advanced capabilities enhance the understanding of disease patterns and aid in refining research questions related to the diagnosis and treatment of Multiple Sclerosis.

## **5. 6 Changes that will happen in daily practice**

Healthcare professionals and Doctors using our software will witness a transformative shift in their daily practice. The tool accelerates diagnosis, allowing for immediate intervention and personalized treatment plans. This not only improves patient outcomes but also enhances the overall efficiency of healthcare delivery.