

Project Initialization and Planning Phase

Date	15 March 2024
Team ID	SWTID1720000747
Project Title	Detection Of Autistic Spectrum Disorder: Classification
Maximum Marks	3 Marks

Project Proposal (Proposed Solution) template

The proposal report aims to revolutionize the early detection of Autism Spectrum Disorder (ASD) using machine learning, enhancing diagnostic efficiency and accuracy. It addresses the current system's limitations, promising faster diagnosis, reduced costs, and improved patient outcomes. Key features include a machine learning-based screening tool and a user-friendly interface for real-time predictions.

Project Overview	
Objective	"The primary objective of this project is to develop an efficient and accessible ASD screening tool that utilizes behavioral and individual characteristics to predict autism cases early, enabling timely intervention and support."
Scope	"This project will focus on creating a machine learning model to analyse behavioural and individual characteristics data to predict ASD. The tool will be designed for use by healthcare professionals and parents seeking early diagnosis for children. The scope includes data collection, model training, validation, and deployment in a user-friendly interface."
Problem Statement	
Description	"The current ASD diagnostic process is lengthy, costly, and difficult to access, leading to delays in diagnosis and intervention. This project aims to address these issues by developing a time-efficient and accessible screening tool."
Impact	"Solving this problem will enable early intervention, improving developmental outcomes and quality of life for individuals with autism and their families. Additionally, it will reduce the economic burden on

	healthcare systems and create business opportunities for innovative diagnostic tools."
Proposed Solution	
Approach	"The project will utilize machine learning techniques to analyse a dataset containing behavioural and individual characteristics associated with ASD. The steps include data preprocessing, feature selection, model training, evaluation, and deployment. The tool will be accessible through a web-based interface for ease of use."
Key Features	<ul style="list-style-type: none"> • "User-friendly interface for inputting data and receiving predictions." • "Integration of both behavioural and individual characteristics for comprehensive analysis." • "Real-time predictions with high accuracy, sensitivity, and specificity." • "Accessible to both healthcare professionals and parents."

Resource Requirements

Resource Type	Description	Specification/Allocation
Hardware		
Computing Resources	CPU/GPU specifications, number of cores	T4 GPU
Memory	RAM specifications	8 GB
Storage	Disk space for data, models, and logs	1 TB SSD
Software		
Frameworks	Python frameworks	Flask
Libraries	Additional libraries	scikit-learn, pandas, numpy, matplotlib, seaborn
Development Environment	IDE, version control	Jupyter Notebook, Git, Colab
Data		
Data	Source, size, format	Kaggle dataset,

