**Autism Spectrum Disorder Detection based on Questionnaire Dataset through Machine Learning Techniques**

Proposed system is completely based on the deep learning Neural network and implemented using scikit-learn library and Keras framework. Here you will get to know the libraries that are required to run this code.

**Installation Python Libraries:**

* Tensorflow
* Keras
* Scikit-learn
* NumPy
* Pandas
* Matplotlib and Seaborn
* xgboost

**Software:** Anaconda (jupyter Notebook)

**Setup the Environment**

1. **Data Collection:** Collect the data from Kaggle.
2. Open jupyter notebook from command prompt.
3. Upload the Autism dataset in the Jupyter Environment.
4. Open the Autism.ipynb file.

**Implementation**

**How to run the code:**

Step1. **Import Dataset:** first import the dataset and import all necessary libraries. Run all the cells below Heading Import dataset.

Step2. **Visualization of Data:** visualize the dataset with seaborn and matplotlib library. Run all the cells below Heading Visualization with seaborn.

Step3. **Normalization and One-Hot Encoding Method:** Normalize the dataset and create dummy variables for multi class values. Run all the cells below Heading Normalization and One-Hot Encoding Method.

Step4. **Supervised Machine Learning Models:** Apply ML techniques in dataset. Run all the cells below Heading Supervised Machine Learning Models.

Step5. **Feature Importance:** find the feature importance through xgboost library. Run all the cells below Heading Feature Importance.

Step6. **MLP Model:** Build a Multi-layer Perceptron model using Keras Framework. Run all the Cells below Heading MLP Model Architecture.

Step7. **Result and Comparison:** Compare the accuracy of different Machine Learning Models. Run all the cells Below Heading Result.