**Model Development Phase Template**

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| Date | 15 JULY 2024 |
| Team ID | 739911 |
| Project Title | Detection Of Autistic Spectrum Disorder: Classification |
| Maximum Marks | 5 Marks |

**Feature Selection Report Template**

In the forthcoming update, each feature will be accompanied by a brief description. Users will indicate whether it's selected or not, providing reasoning for their decision. This process will streamline decision-making and enhance transparency in feature selection.

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| **Feature** | **Description** | **Selected (Yes/No)** | **Reasoning** |
| Clinical Features | . Age of Diagnosis: The age at which ASD was diagnosed. | YES | Symptom Severity: A score indicating the severity of ASD symptoms.  Behavioral Observations: Scores from behavioral assessments, such as the Autism Behavior Checklist (ABC). |
| Neuroimaging Features | Brain Structure Volumes: Volumes of brain structures, such as the amygdala and hippocampus | Yes | Functional Connectivity Metrics: Measures of brain connectivity, such as default mode network (DMN) activity.  Brain Activity Patterns: EEG frequency bands, such as alpha, beta, and theta waves. |
| **Behavioral Features** | **Social Skills Assessments: Scores from social skills assessments, such as the Social Responsiveness Scale (SRS).** | Yes | **Communication Skills Assessments: Scores from communication skills assessments, such as the Communication and Symbolic Behavior Scales (CSBS).**  **Repetitive Behavior Assessments: Scores from repetitive behavior assessments, such as the Repetitive Behavior Scale (RBS).** |
| Genetic Features | Genetic Variant Frequencies: Frequencies of specific genetic variants, such as SNPs and CNVs | Yes | Gene Expression Levels: Levels of gene expression, measured through RNA sequencing. |
| Social Media and Online Features | Social Media Usage Patterns: Frequency and duration of social media use. | Yes | Online Behavior Patterns: Search queries, browsing history, and other online behaviors. |
| Environmental Features | Exposure to Environmental Toxins: Exposure to pesticides, heavy metals, and other toxins | Yes | Nutrition and Dietary Patterns: Food preferences, nutrient intake, and other dietary metrics. |
| Wearable Device Features | Physical Activity Levels: Step count, exercise intensity, and other physical activity metrics |  | Sleep Patterns: Sleep duration, quality, and other sleep metrics. |