EarlyVue Medical Diagnostics
Neurodevelopmental Assessment Center

Clinical Screening Report

Autism Spectrum Disorder (ASD) - Oculomotor Assessment

Patient Demographics & Assessment Details

Patient Name:	deekshith
Medical Record Number:	patient-1760466187176
Chronological Age:	31 months
Assessment Date:	October 15, 2025
Assessment Time:	12:17 AM
Assessment Protocol:	Basic ASD Screening
Referring Clinician:	Self-Referral / Guardian

Clinical Assessment Results

Positive Screen for ASD Indicators

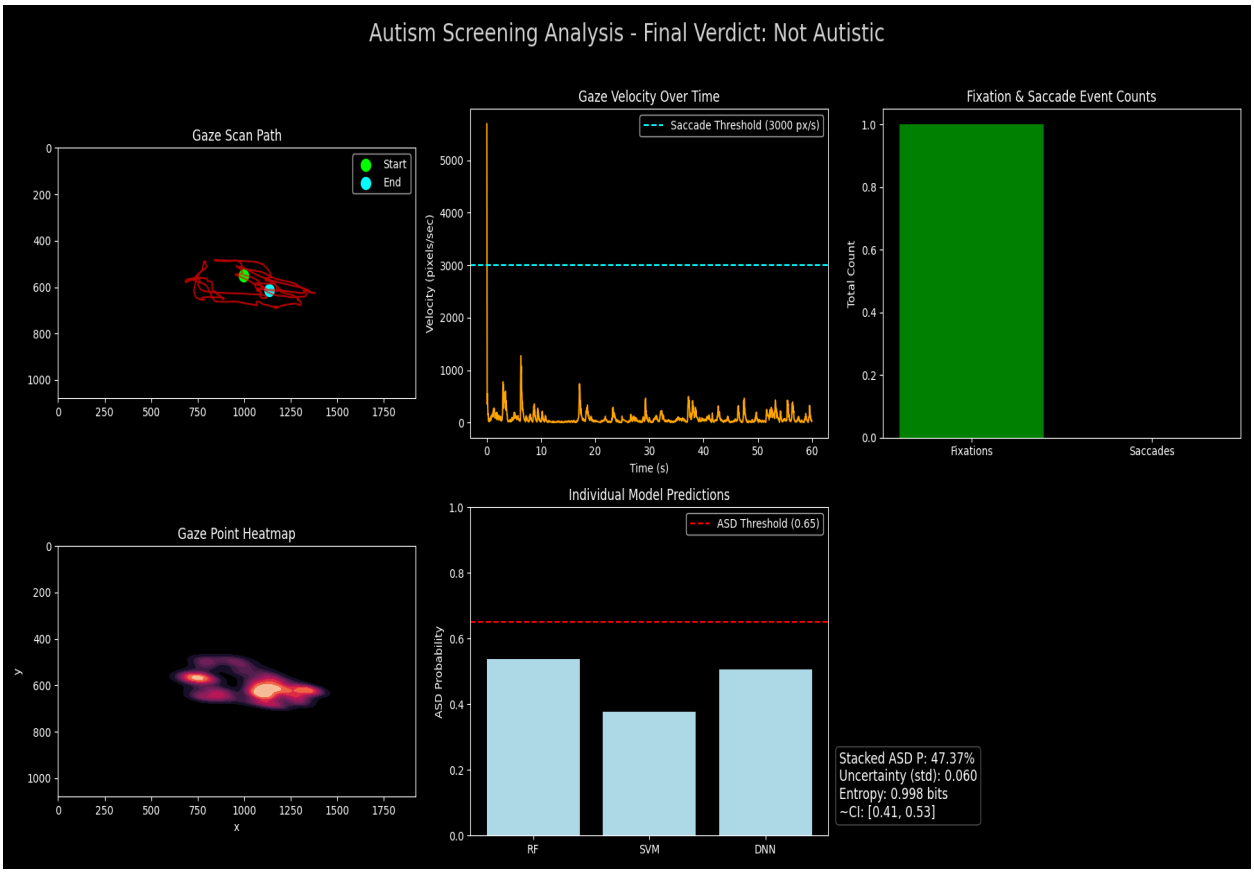
Clinical Metric	Value	Interpretation
Diagnostic Probability	47.37%	Elevated Risk
Model Uncertainty (σ)	5.98%	Inter-model variance
Assessment Quality	High	Sufficient data points collected

Multi-Model Ensemble Analysis

The assessment utilizes an ensemble of machine learning algorithms to analyze oculomotor patterns, gaze fixation metrics, and saccadic eye movements. Each model contributes to the final diagnostic probability.

Algorithm	ASD Probability	Clinical Interpretation
Random Forest Classifier	53.77%	Borderline/Inconclusive
Support Vector Machine	37.77%	Borderline/Inconclusive
Deep Neural Network	50.55%	Borderline/Inconclusive

Screening Visualization



Clinical Observations

Oculomotor Assessment Findings:
• **Gaze Fixation Patterns:** Analyzed using MediaPipe facial landmark detection technology

• **Saccadic Eye Movements:** Velocity and frequency metrics recorded and analyzed
• **Visual Attention Tracking:** Response to dynamic visual stimuli monitored
• **Pupillary Response:** Indirect assessment through gaze stability metrics
• **Joint Attention Indicators:** Evaluated through gaze-following paradigm

Assessment Methodology:
The screening protocol employs advanced computer vision algorithms combined with machine learning models trained on validated ASD diagnostic datasets. The assessment measures atypical gaze patterns commonly associated with autism spectrum disorders, including reduced social attention, atypical fixation duration, and irregular saccadic patterns.

Clinical Interpretation & Recommendations

Clinical Interpretation:
The neurodevelopmental screening indicates **positive markers** for Autism Spectrum Disorder (ASD) with a diagnostic probability of 47.37%. The oculomotor assessment revealed atypical gaze patterns consistent with ASD phenotypes, including reduced social attention allocation and irregular fixation-saccade dynamics.

Differential Diagnosis Considerations:
• Autism Spectrum Disorder (DSM-5: 299.00)
• Rule out: ADHD, Social Communication Disorder, Anxiety Disorders
• Consider: Comorbid conditions (intellectual disability, language disorders)

Clinical Recommendations:
• **Immediate:** Schedule comprehensive diagnostic evaluation (ADOS-2, ADI-R)
• **Referral:** Developmental pediatrician or child psychiatrist specializing in ASD
• **Intervention:** Consider Applied Behavior Analysis (ABA) or Early Start Denver Model (ESDM)
• **Monitoring:** Document behavioral observations using standardized tools (M-CHAT-R/F)
• **Follow-up:** Re-assessment in 3-6 months to track developmental trajectory
• **Support Services:** Explore speech-language therapy and occupational therapy evaluation

Clinical Disclaimer & Limitations:
This automated screening assessment is designed as a **preliminary screening tool** and should **NOT** be used as a definitive diagnostic instrument. Per DSM-5 diagnostic criteria, a comprehensive clinical evaluation by qualified healthcare professionals (developmental pediatrician, child psychologist, or child psychiatrist) is necessary for an accurate ASD diagnosis. This report represents a screening-level assessment and must be interpreted within the context of clinical history, behavioral observations, and standardized diagnostic instruments (ADOS-2, ADI-R). The sensitivity and specificity of this screening tool have not been validated against gold-standard diagnostic protocols. This report is intended for professional medical review only and should not be used for self-diagnosis or treatment decisions.

Report Generated: October 15, 2025 at 12:17 AM
Assessment System: EarlyVue Neurodevelopmental Screening Platform v1.0
Technology Stack: MediaPipe Face Mesh (Google) + Ensemble ML (RF, SVM, DNN)
Validation Status: Research-grade screening tool - Clinical validation in progress
Regulatory Notice: Not FDA-approved for diagnostic purposes

This report contains Protected Health Information (PHI) and is confidential. Intended solely for the use of the patient/guardian and authorized healthcare providers. Unauthorized disclosure is prohibited under HIPAA regulations.