AI Alzheimer's Diagnostic Report

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Weighted Ensemble Model | 78.17% Validation Accuracy

Diagnostic Result:

Alzheimer's Disease (AD)

Confidence: 94.1%

Class Probabilities:

Cognitively Normal (CN): 1.1%

Mild Cognitive Impairment (MCI): 4.8%

Alzheimer's Disease (AD): 94.1%

Model Architecture:

- VGG16 Weight: 47.7%
- Xception Weight: 52.3%
- Validation Accuracy: 78.17%
- AD Sensitivity: 100%
- AD Precision: 50%

Clinical Recommendations

Result: Alzheimer's Disease (AD)

Confidence: 94.1%

This AI system provides decision support and is NOT a definitive diagnosis.

Interpretation:

Imaging patterns strongly associated with Alzheimer's Disease detected. The ensemble model has **100% sensitivity** for AD detection.

Critical Next Steps:

- **Urgent neurologist consultation** required
- ■ Comprehensive clinical assessment needed
- ■ Consider genetic counseling (APOE4 testing)
- ■ Discuss FDA-approved treatments:
- Cholinesterase inhibitors (Donepezil, Rivastigmine)
- NMDA antagonist (Memantine)
- Anti-amyloid antibodies (Lecanemab, Donanemab)

Care Planning:

- ■■■■■■■ Involve family/caregivers in care decisions
- ■ Legal planning (advance directives, power of attorney)
- ■ Home safety assessment
- ■ Financial planning for long-term care

Support Resources:

- Alzheimer's Association: 800-272-3900
- Clinical trials: ClinicalTrials.gov
- Support groups for patients and caregivers

Prognosis:

Early detection allows for:
- Better treatment response
- Clinical trial eligibility
- Advanced care planning
- Quality of life optimization

IMPORTANT DISCLAIMER:

This AI diagnostic system is intended for clinical decision support only.
It does NOT replace professional medical diagnosis or clinical judgment.
All results must be confirmed by qualified healthcare professionals.
The model was validated on a specific dataset and may not generalize to all populations.
Consult a licensed neurologist or physician for definitive diagnosis and treatment planning.