SeizureScoreAI

Teaching LLMs to Reason Like Epileptologists

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What is Epilepsy?

50 million people worldwide have epilepsy.

Seizures are caused by abnormal electrical activity in the brain.

Surgery can eliminate seizures in 60-70% of patients - but how do we measure success?

Generalised Tonic-Clonic Seizure(Grand Mal)

The ILAE Outcome Scale

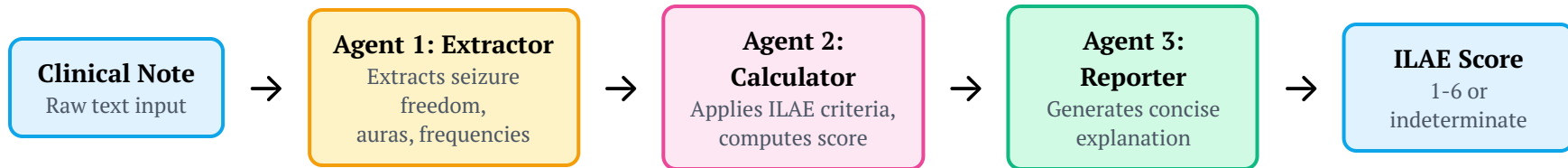| Class	Outcome
1	Seizure-free, no auras
2	Only auras, no seizures
3	1-3 seizure days/year
4	4+ days to 50% reduction
5	Less than 50% reduction
6	More than 100% increase

The Problem:

Calculating ILAE scores requires:

- Reading dense clinical notes
- Extracting seizure frequencies
- Comparing pre/post surgery status
- Applying classification rules

Can an LLM do this?

Architecture: 3 Agents, 1 Pipeline

Clinical Note
Raw text input

→

Agent 1: Extractor
Extracts seizure freedom, auras, frequencies

→

Agent 2: Calculator
Applies ILAE criteria, computes score

→

Agent 3: Reporter
Generates concise explanation

→

ILAE Score
1-6 or indeterminate

Built with **Google ADK** (Agent Development Kit) + **Gemini 3 Flash**

Each agent is an `LLMAgent` with a focused instruction → JSON handoffs → reliable outputs

Demo

Try it: Upload a clinical note → Get ILAE score + explanation

github.com/vineet-reddy/SeizureScoreAI