

## How does ADELANTE work?

### Overview

ADELANTE (built on ChatGPT-5.1) is a highly structured, rule-governed summarization system tailored for medical professionals who need fast, reliable digestion of research at the intersection of medicine and artificial intelligence. It transforms user-uploaded PDFs into a standardized 0.5–1 page report (“The ADELANTE Report”) using a fixed template, strict evidence boundaries, and transparent methodological constraints. This material is then used to generate an AI-assisted infographic. Every part of ADELANTE’s design prioritizes fidelity to the source material, resistance to hallucination, reproducibility, and interpretability—features essential to clinical, academic, and regulatory audiences.

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### Core Functional Process

#### 1. Controlled Evidence Extraction

ADELANTE ingests the source material (PDF) and extracts only information explicitly contained in it. No external knowledge, assumed facts, inferred methods, or estimated statistics are allowed. When information is absent, the system is required to state “**Not reported.**”

This ensures a clear provenance chain between the uploaded document and the generated summary.

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#### 2. Rigid Template Adherence

ADELANTE outputs each report in a predefined, non-modifiable structure consisting of:

- Info
- Purpose
- Background
- Methods
- Results (with ≤20-word verbatim quotes\*\* only\*\*)
- Conclusions (no verbatim text)
- Limitations

- Quality Appraisal
- Big Picture
- AMA-style citation

This fixed architecture guarantees uniformity across papers, facilitating comparison, journal club use, and evidence synthesis.

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### **3. Theme Assignment Using a Controlled Vocabulary**

ADELANTE uses a standardized theme taxonomy (e.g., *Clinical Decision Support, Ethics & Policy, Diagnostics & Imaging*) and must select exactly one theme based on the PDF's content. This eliminates ambiguity and enhances retrieval and cataloging in institutional workflows.

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### **4. Verbatim-Quote Governance**

ADELANTE employs extremely tight rules for verbal precision:

- Quotes appear **only** in Results
- They must be **≤20 words**
- They must support a specific finding
- They must be copied exactly
- They must not appear anywhere else in the report

This preserves the distinction between **reported findings** and **ADELANTE's summarization**, which is essential for evidence transparency, audits, and academic review.

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### **5. Embedded Methodological Appraisal**

ADELANTE produces a **one-sentence** quality evaluation using internal checklists tailored to:

- Study type

- AI-specific evaluations (dataset quality, leak prevention, validation, fairness, drift risk, etc.)

This appraisal does **not** introduce external facts; it evaluates the study strictly on what is disclosed within the paper.

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## 6. Controlled Interpretive Layer

The **Conclusions**, **Limitations**, and **Big Picture** sections follow sharply defined constraints:

- **Conclusions:** Rephrase authors' claims without using verbatim text
- **Limitations:** Only those explicitly described by the paper
- **Big Picture:** One sentence connecting findings to clinical or educational context without editorializing or speculation

This ensures clinical relevance without drifting into opinion or extrapolation.

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## 7. Post-Report Supplementation

After delivering the full ADELANTE Report, the system offers an optional supplementary file (“Study Conclusions Dump”) containing:

- Theme
- Title
- Methodology overview
- Results (without verbatim quotes)
- Authors’ Conclusions
- Big Picture

This supports research synthesis and rapid multi-paper comparison.

Summarized material is then utilized to create a companion info graphic.

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## Design Philosophy

ADELANTE's design reflects four core principles:

1. **Reproducibility:** Any reader can trace every statement back to the PDF.
2. **Rigor:** Summaries follow checklists modeled after established research-quality frameworks.
3. **Transparency:** Verbatim quotes are clearly demarcated and separated from interpretation.
4. **Clinical Usability:** The compact format mirrors how residents and clinicians naturally exchange information.

These principles align with standards expected in evidence-based medicine, clinical AI oversight, and regulatory review.

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## FAQ

### **How does ADELANTE prevent hallucinations?**

By design, it cannot include information not present in the source PDF. When details are missing, it must explicitly say so. It cannot infer sample sizes, study designs, outcomes, or statistical methods. Even so, hallucinations cannot be fully prevented so all findings must be confirmed manually.

### **How do you ensure quote accuracy?**

The system applies stringent constraints: exact text only,  $\leq 20$  words, and limited to the Results section. It is prohibited from rephrasing in that section, which creates an auditable trail. Even so, accuracy cannot be fully guaranteed so all findings must be confirmed manually.

### **Does ADELANTE introduce bias through summarization?**

Bias is minimized through:

- a fixed template, reducing selective reporting;
- no editorializing;
- no inference beyond the paper;
- checklists that describe, rather than judge, methodological strengths and weaknesses.

## **How does ADELANTE handle ambiguous or poorly described papers?**

When clarity is lacking, ADELANTE records missing information explicitly. It does not attempt reconstruction or guesswork.

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## **Limitations**

ADELANTE's constraints are intentional but create boundaries users should be aware of:

- **No external fact retrieval:** It cannot contextualize findings with broader literature, guidelines, or expert knowledge.
- **No inferential reasoning:** If authors omit key methodological or statistical details, ADELANTE will not attempt to fill gaps.
- **Template rigidity:** The format cannot be customized; all reports use the same architecture.
- **No deep critical synthesis:** The system cannot argue, debate, or weigh multiple papers against each other without explicit user instruction and multi-paper inputs.
- **Dependent on PDF quality:** Poor OCR, missing tables, or non-machine-readable text may limit extraction accuracy.
- **Verbatim quote size cap:** Important but lengthy textual results may not be fully represented due to the ≤20-word rule.

These limitations are by design to preserve fidelity, minimize hallucination, and guarantee reproducibility for clinical and academic scrutiny.

**Given the above limitations and inherent risk of inaccuracies that come with normal use of AI, all information contained in the ADELANTE report must be confirmed by the reader through careful review of the source material. ADELANTE is intended as a resource to guide further exploration of a topic. This tool is not intended to provide medical advice or serve as an authority on a subject.**