

# The GAIDeT package

João M. Lourenço

<https://github.com/joaomlourenco/GAIDeT>

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## 1 Introduction

GAIDeT is a LaTeX package providing a standardized, transparent mechanism for declaring the use of Generative Artificial Intelligence (GAI) tools in academic, technical, and professional documents.

The package is designed to support emerging ethical, institutional, and publisher requirements concerning AI-assisted content creation. It implements the *GAIDeT (Generative AI Delegation Taxonomy)*, as proposed by **Suchikova:GAIDeT:2025 Suchikova:GAIDeT:2025 [Suchikova:GAIDeT:2025]**.

This package allows authors to:

- Select specific tasks delegated to AI from the predefined taxonomy (e.g., idea generation, data cleaning, text summarization).
- List the specific GAI tools used (e.g., ChatGPT, Gemini, Claude).
- Add optional explanatory comments.
- Automatically generate a formatted “Disclosure of Delegation to Generative AI” section, including the necessary responsibility statements.

## 2 Usage

To use the package, load it in your document preamble:

```
\usepackage{GAIDeT}
```

The declaration process consists of two steps: **Configuration** (defining what was done) and **Rendering** (printing the declaration).

## 2.1 Configuration

Configuration commands can be placed in the preamble or anywhere in the document body before the rendering command is called.

### 2.1.1 Activating Taxonomy Items

Use the `\Activate{<key>}` command to check specific items in the taxonomy. A full list of available keys is provided in Section ??.

```
% Example: Activating "Idea generation" and "Code optimization"  
\Activate{c:idea}  
\Activate{s:opt}
```

### 2.1.2 Specifying Tools

Use the `\GAItoolsUsed{<list>}` command to list the AI tools employed. The package automatically formats the output sentence based on the number of tools provided (handling singular/plural forms and commas).

```
% Example 1: No tools used  
\GAItoolsUsed{}  
  
% Example 2: One tool  
\GAItoolsUsed{ChatGPT-4}  
  
% Example 3: Multiple tools  
\GAItoolsUsed{ChatGPT-4, Gemini Advanced, Claude 3}
```

### 2.1.3 Adding Comments

If you need to provide additional context, use the `GAIComment` environment.

```
\begin{GAIComment}  
    The AI was used primarily for refining the code in Section 3,  
    but the algorithm logic was derived manually.  
\end{GAIComment}
```

### 2.1.4 Customizing the Title

You can change the default title of the declaration section using `\GAIDeTtitle`.

```
\GAIDeTtitle[Short Title]{Full Title for the Section}[section-level]
```

The last (optional) argument `section-level` defaults to `chapter` if `\chapter` is defined (e.g., in book-like documents), otherwise defaults to `section`.

## 2.2 Rendering the Declaration

To print the final declaration, use the `\RenderGAIDeTDeclaration` command at the desired location in your document. For papers/articles, you may consider to it before or after the references. For thesis/dissertations, please follow your University/School rules.

```
\RenderGAIDeTDeclaration[<font_scale>]{<Author Names>}
```

- **Optional Argument ([1]):** A scaling factor for the checklist font size relative to the document text. The default is 1 (slightly smaller).
- **Mandatory Argument:** A comma-separated list of author names submitting the declaration.

### Example:

```
\RenderGAIDeTDeclaration[1]{Jane Doe, John Smith}
```

## 3 Taxonomy Keys

The following keys correspond to the specific tasks defined in the GAIDeT taxonomy. Use these keys with the `\Activate{}` command.

Key	Description
<b>Conceptualization</b>	
c:idea	Idea generation
c:objective	Defining the research objective
c:rq	Formulating research questions and hypotheses
c:feas	Feasibility assessment and risk evaluation
c:pretest	Preliminary hypothesis testing
<b>Literature Review</b>	
l:search	Literature search and systematization
l:write	Writing the literature review
l:patents	Analysis of market trends/patent environment
l:gaps	Novelty evaluation and gap identification

<b>Methodology</b>	
<b>m:design</b>	Research design
<b>m:protocols</b>	Experimental or research protocols
<b>m:methods</b>	Selection of research methods
<b>Software Development</b>	
<b>s:codegen</b>	Code generation
<b>s:opt</b>	Code optimization
<b>s:auto</b>	Process automation
<b>s:algs</b>	Algorithms for data analysis
<b>Data Management</b>	
<b>d:collect</b>	Data collection
<b>d:validate</b>	Validation
<b>d:clean</b>	Data cleaning
<b>d:curate</b>	Data curation and organization
<b>d:analyze</b>	Data analysis
<b>d:viz</b>	Visualization
<b>d:repro</b>	Reproducibility testing
<b>Writing and Editing</b>	
<b>w:textgen</b>	Text generation
<b>w:proof</b>	Proofreading and editing
<b>w:summarize</b>	Summarizing text
<b>w:concl</b>	Formulation of conclusions
<b>w:tone</b>	Adapting and adjusting emotional tone
<b>w:translate</b>	Translation
<b>w:reformat</b>	Reformatting
<b>w:press</b>	Press releases and outreach materials
<b>Ethics &amp; Supervision</b>	
<b>e:bias</b>	Bias analysis and discrimination assessment
<b>e:risk</b>	Ethical risk analysis
<b>e:compliance</b>	Compliance monitoring
<b>e:conf</b>	Data confidentiality monitoring
<b>sup:qa</b>	Quality assessment
<b>sup:trends</b>	Trend identification
<b>sup:limits</b>	Identification of limitations
<b>sup:recs</b>	Recommendations
<b>sup:pub</b>	Publication support

## 4 Disclosure of Generative Artificial Intelligence

The author declares the use of Generative AI in the research work and writing process of this document.

According to the GAIDeT taxonomy<sup>1</sup>, the following tasks were delegated to Generative AI tools under full human supervision:

### Conceptualization

- |                                                                                   |                                                                                |                                                         |
|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------|---------------------------------------------------------|
| <input checked="" type="checkbox"/> Formulating research questions and hypotheses | <input checked="" type="checkbox"/> Defining the research objective            | <input type="checkbox"/> Preliminary hypothesis testing |
| <input checked="" type="checkbox"/> Idea generation                               | <input checked="" type="checkbox"/> Feasibility assessment and risk evaluation |                                                         |

### Literature Review

- |                                                                              |                                                                           |                                                                           |
|------------------------------------------------------------------------------|---------------------------------------------------------------------------|---------------------------------------------------------------------------|
| <input type="checkbox"/> Analysis of market trends and/or patent environment | <input checked="" type="checkbox"/> Literature search and systematization | <input type="checkbox"/> Evaluation of novelty and identification of gaps |
|                                                                              | <input checked="" type="checkbox"/> Writing the literature review         |                                                                           |

### Methodology

- |                                                        |                                                                            |
|--------------------------------------------------------|----------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> Research design    | <input type="checkbox"/> Development of experimental or research protocols |
| <input type="checkbox"/> Selection of research methods |                                                                            |

### Software Development and Automation

- |                                            |                                                        |                                                                              |
|--------------------------------------------|--------------------------------------------------------|------------------------------------------------------------------------------|
| <input type="checkbox"/> Code generation   | <input checked="" type="checkbox"/> Process automation | <input checked="" type="checkbox"/> Creation of algorithms for data analysis |
| <input type="checkbox"/> Code optimization |                                                        |                                                                              |

### Data Management

- |                                                |                                                                    |                                                  |
|------------------------------------------------|--------------------------------------------------------------------|--------------------------------------------------|
| <input type="checkbox"/> Data collection       | <input checked="" type="checkbox"/> Data curation and organization | <input type="checkbox"/> Visualization           |
| <input checked="" type="checkbox"/> Validation | <input checked="" type="checkbox"/> Data analysis                  | <input type="checkbox"/> Reproducibility testing |
| <input type="checkbox"/> Data cleaning         |                                                                    |                                                  |

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<sup>1</sup>Suchikova, Y., Tsybuliak, N., Teixeira da Silva, J. A., & Nazarovets, S. (2025). GAIDeT (Generative AI Delegation Taxonomy): A taxonomy for humans to delegate tasks to generative artificial intelligence in scientific research and publishing. *Accountability in Research*, 1–27. <https://doi.org/10.1080/08989621.2025.2544331>

## Writing and Editing

- |                                                      |                                                                           |                                                                           |
|------------------------------------------------------|---------------------------------------------------------------------------|---------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> Text generation  | <input type="checkbox"/> Formulation of conclusions                       | <input type="checkbox"/> Translation                                      |
| <input type="checkbox"/> Proofreading and editing    | <input checked="" type="checkbox"/> Adapting and adjusting emotional tone | <input type="checkbox"/> Reformatting                                     |
| <input checked="" type="checkbox"/> Summarizing text |                                                                           | <input checked="" type="checkbox"/> Press releases and outreach materials |

## Ethics Review

- |                                                                                 |                                                                                  |                                                          |
|---------------------------------------------------------------------------------|----------------------------------------------------------------------------------|----------------------------------------------------------|
| <input checked="" type="checkbox"/> Bias analysis and discrimination assessment | <input checked="" type="checkbox"/> Monitoring compliance with ethical standards | <input type="checkbox"/> Data confidentiality monitoring |
| <input checked="" type="checkbox"/> Ethical risk analysis                       |                                                                                  |                                                          |

## Supervision

- |                                               |                                                                   |                                              |
|-----------------------------------------------|-------------------------------------------------------------------|----------------------------------------------|
| <input type="checkbox"/> Quality assessment   | <input checked="" type="checkbox"/> Identification of limitations | <input type="checkbox"/> Publication support |
| <input type="checkbox"/> Trend identification | <input type="checkbox"/> Recommendations                          |                                              |

Responsibility for the final manuscript lies entirely with the authors.

Generative AI tools are not listed as authors and do not bear responsibility for the final outcomes.

Declaration submitted by: *Jane Doe, John Doe, and Mary Doe*.

**Additional comment:** The AI was used primarily for refining the code in Section 3, but the algorithm logic was derived manually.