

The revbadge Package

Custom Highlighting for Academic Revisions

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Abstract—This document serves as both the official user manual and a compilation demonstration for the `revbadge` package (Version 1.2). We present examples of how to address peer-review revisions across inline edits, word-level tags, and block environments using distinct color schemes within standard multi-column academic layouts.

1 INTRODUCTION & PACKAGE PURPOSE

With the increasing rigor of peer-review processes, keeping track of manuscript modifications has become crucial. The `revbadge` package provides a flexible **four-component** architecture for revision management:

- **Inline Highlights (`\revbadgeinline`):** For mid-sentence text changes that require soft, multi-line wrapping and background track highlighting.
- **Word Badges (`\wordbadge`):** Compact, self-contained on-line boxes for tagging specific words, symbols, or quick metrics.
- **Block Boxes (`revbadge`):** TColorBox-powered call-out blocks for entire paragraphs or new structural additions.
- **Multi-line Badges (`revbadgemultiline`):** Extended block environments that support multi-line title badges and smaller typography for detailed reviewer comments.

All components share a unified 24-theme color palette and automatic cross-referencing via `cleveref`.

2 CORE COMMANDS & ENVIRONMENTS

2.1 Inline Edits

Command **used:** `\revbadgeinline[colframe=purp,colback=purpb]{R3}{rev:short}`
`{stochasticdescent}`

Reviewer 3 pointed out a technical term error. We have corrected the phrase **R3** stochastic gradient descent to match their preferred domain nomenclature. As shown by this example, it handles micro-edits gracefully without breaking line spacing.

2.2 Compact Word Badges

Command **used:** `\wordbadge[colframe=teal,colback=tealb]{R1.2}{rev:wbadge}`
`{UpdatedParameter}`

When highlighting standalone terms, metrics, or labels without needing a full-text highlight track, use `\wordbadge`: The model optimization now utilizes an **R1.2 Adaptive Learning Rate** setting during fine-tuning.

2.3 Block Level Revisions

Environment used: `revbadge`

For larger text changes or entire sections, use the `revbadge` environment:

2.3.1 Methodology Updates

Fusce malesuada ipsum erat, nec imperdiet felis accumsan eu. Etiam et ultricies eros. Morbi laoreet viverra mattis. Nulla facilisi. Nam convallis, nisl eu luctus interdum, erat sapien imperdiet enim, sed rhoncus turpis turpis eget massa.

Command: `\begin{revbadge}[colframe=aqua,colback=aquab]{R2}{rev:theory}...\end{revbadge}`

R2

maximus ac pretium id, porta quis est. Ut ante dolor, semper vitae mauris nec, finibus cursus mauris. Aliquam tincidunt tellus lorem, vitae vulputate magna cursus sit amet. Phasellus ante magna, consequat a nunc id.

Command: `\begin{revbadge}[colframe=gren,colback=grenb]{Whatdoyoumeanbythis?}{rev:baseline_clarity}...\end{revbadge}`

What do you mean by this?

Our core algorithm relies on a highly modular pipeline. Reviewer 1 pointed out a structural flaw in our original baseline model equation. Consequently, we have revised the mathematical formulation to ensure convexity.

2.4 Nested Frameworks and Mathematics

Command: Nesting `revbadge` environments.

The environment naturally preserves mathematical structures inside columns without spacing bleed and allows internal nesting:

R3

We update our primary objective function to include a regularization parameter λ . The new optimization problem is formulated as follows:

Corrected Eq.

$$\min_{\theta} \mathcal{L}(\theta) + \lambda \|\theta\|_2^2 \quad (1)$$

This formulation guarantees a unique global minimum under standard Lipschitz continuity conditions.

2.5 Multi-line Badges

Environment used: `revbadgemultiline`

Command: `\begin{revbadgemultiline}[colframe=purp,colback=purpb]{LongReviewerQuery...}{rev:r2c1}...\end{revbadgemultiline}`

This is a substantial revision that requires re-analysis of the data.

The reviewer has raised several important points about methodology, statistical power, and interpretation of results. We need to:

- Re-run the analysis with additional controls
- Provide sensitivity analyses
- Clarify the theoretical framework

We have addressed each point comprehensively in the revised manuscript.

2.6 Table Integration

Command: `\revbadgeinline` inside a tabular cell.

Reviewer 1 requested updated evaluation metrics in our comparative analysis. As shown in Table 1, we can seamlessly embed tracking badges directly inside tabular environments.

TABLE 1
Baseline Performance Metrics Comparison

Method	Accuracy (%)	F1-Score	Latency (ms)
ResNet-50	76.2	0.74	12.5
ViT-Base	81.4	0.80	24.1
Ours	R1 84.9	0.83	18.4

2.7 Highlighting Figure Captions

You can use inline highlight badges inside figure captions:

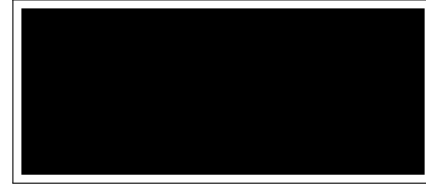


Fig. 1. Performance comparison of our method **R1.6 Ours** against state-of-the-art baselines.

2.8 Custom Layout Formatting

Command: `revbadge` with custom geometry options (`top=4pt`, `bottom=4pt`).

Hardware Specs

All evaluations executed natively on an NVIDIA H100 GPU cluster.

The total execution window spanned exactly 48 continuous hours.

3 CROSS-REFERENCING TRACKER

Because the package automatically binds internal counters to `cleveref`, referencing edits is seamless. For example, referencing the word badge yields highlight 2, the inline edit maps to highlight 1, the block update resolves to section 2.3.1, the table fix maps to highlight 8, and the nested equation resolves to section 2.4.

4 COLOR PALETTE

The package defines 24 unique color themes. Each frame color has a corresponding background color appended with the letter b (e.g., blue frame with `blueb` background).

Name	Frame	Background
blue		
orng		
gren		
purp		
grey		
ylow		
cyan		
redx		
pink		
brow		
lime		
teal		
sage		
plum		
rust		
jade		
gold		
navy		
wine		
clay		
aqua		
char		
rose		
sand		