Quality Guidelines for References in LaTeX Overleaf

1. General Reference Principles

Label Naming Conventions

- Use descriptive, consistent prefixes:
  - `fig:` for figures
  - `tab:` for tables
  - `eq:` for equations
  - `sec:` for sections
  - `ch:` for chapters
  - `alg:` for algorithms
  - `lst:` for code listings

Best Practices

- Always use `\label{}` immediately after the caption
- Reference using `\ref{}`, `\autoref{}`, or `\cref{}`
- Never hardcode numbers (e.g., "Figure 1" - use references instead)
- Place labels on the same line or immediately after captions

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2. Figures and Images

Adding Figures

```
\begin{figure}[htbp]
    \centering
    \includegraphics[width=0.8\textwidth]{images/my-diagram.png}
    \caption{Description of the figure explaining what it shows}
    \label{fig:my-diagram}
\end{figure}
```

Referencing Figures

```
 % Basic reference
As shown in Figure~\ref{fig:my-diagram}, the results indicate...

% With autoref (requires \usepackage{hyperref})
\autoref{fig:my-diagram} demonstrates the relationship between...

% With cleveref (requires \usepackage{cleveref})
\cref{fig:my-diagram} shows the data visualization...
```

Figure Quality Guidelines

- **File formats**: Use PDF for vector graphics, PNG for screenshots, avoid JPEG
- **Resolution**: Minimum 300 DPI for print, 150 DPI for digital
- **Sizing**: Use relative widths (`0.8\textwidth`) rather than absolute measurements
- **Placement**: Use `[htbp]` options (here, top, bottom, page)
- **Captions**: Should be descriptive and self-contained

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3. Tables

Creating Tables

```
\begin{table}[htbp]
    \centering
    \caption{Performance comparison of different algorithms}
    \label{tab:performance-comparison}
    \begin{tabular}{lccr}
        \toprule
        Algorithm & Accuracy (\%) & Time (s) & Memory (MB) \\
        \midrule
        Method A  & 85.2 & 12.4 & 256 \\
        Method B  & 92.1 & 18.7 & 312 \\
        Method C  & 88.9 & 9.2  & 198 \\
        \bottomrule
    \end{tabular}
\end{table}
```

Referencing Tables

```
The results presented in Table~\ref{tab:performance-comparison} show...
\autoref{tab:performance-comparison} contains the experimental data...
```

Table Quality Guidelines

- **Packages**: Use `booktabs` for professional-looking tables
- **Alignment**: Left for text, center for short entries, right for numbers
- **Captions**: Place above the table (convention)
- **Lines**: Use `\toprule`, `\midrule`, `\bottomrule` instead of `\hline`
- **Formatting**: Keep it simple and readable

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4. Equations and Formulas

Numbered Equations

```
The PageRank algorithm can be expressed as:
\begin{equation}
    PR(A) = (1-d) + d \sum_{i=1}^{N} \frac{PR(T_i)}{C(T_i)}
    \label{eq:pagerank}
\end{equation}
```

Referencing Equations

```
According to Equation~\ref{eq:pagerank}, the PageRank value...
Using \autoref{eq:pagerank}, we can calculate...
```

Equation Guidelines

- **Numbering**: Only number equations you reference
- **Unnumbered**: Use `equation*` or `\[...\]` for display math without numbers
- **Inline**: Use `$...$` for inline mathematical expressions
- **Punctuation**: Treat equations as part of sentences with proper punctuation

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5. Citations and Bibliography

Setting Up Bibliography

```
% In preamble
\usepackage[backend=biber,style=numeric,sorting=ynt]{biblatex}
\addbibresource{references.bib}

% At end of document
\printbibliography
```

Citation Types

```
% Basic citation
This approach was first proposed by Smith \cite{smith2023}.

% Multiple citations
Several studies \cite{smith2023,jones2022,brown2024} have shown...

% Citation with page numbers
As noted by Johnson \cite[p.~42]{johnson2021}...

% Parenthetical citation
This method has been widely adopted \citep{multiple,references,here}.

% Author-year style (with natbib)
\citet{smith2023} demonstrated that...
\citep{smith2023,jones2022}
```

Bibliography Quality Guidelines

- **Consistency**: Use consistent formatting for all entries
- **Completeness**: Include all necessary fields (author, title, year, publisher, etc.)
- **DOIs**: Include DOI when available
- **URLs**: Include for web sources with access dates
- **Verification**: Ensure all citations appear in bibliography and vice versa

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6. Sections and Cross-References

Section References

```
\section{Methodology}
\label{sec:methodology}

% Later in document
As described in Section~\ref{sec:methodology}...
The approach outlined in \autoref{sec:methodology} shows...
```

Subsection References

```
\subsection{Data Collection}
\label{sec:data-collection}

% Reference
The process detailed in \autoref{sec:data-collection} involves...
```

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7. Overleaf-Specific Guidelines

File Organization

```
project/
├── main.tex
├── references.bib
├── chapters/
│   ├── introduction.tex
│   ├── methodology.tex
│   └── conclusion.tex
└── images/
    ├── diagram1.pdf
    ├── chart2.png
    └── screenshot3.png
```

Compilation Process

1. **First compile**: LaTeX processes the document and creates `.aux` files
2. **Bibliography**: Biber/BibTeX processes citations
3. **Second compile**: LaTeX incorporates bibliography
4. **Third compile**: LaTeX resolves all cross-references

Overleaf Settings

- **Compiler**: Use XeLaTeX for Unicode support
- **Main document**: Set in project settings
- **Auto-compile**: Enable for real-time preview
- **Error handling**: Check logs for undefined references

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8. Common Mistakes to Avoid

❌ Don't Do This

```
% Hardcoded references
See Figure 1 for details...
Table 2 shows the results...
As mentioned in equation (3.1)...

% Poor label names
\label{fig1}
\label{table}
\label{eq}

% Missing non-breaking spaces
Figure \ref{fig:example} shows...
```

✅ Do This Instead

```
% Proper references
See \autoref{fig:experimental-setup} for details...
\cref{tab:performance-results} shows the results...
As shown in \autoref{eq:optimization-function}...

% Descriptive labels
\label{fig:experimental-setup}
\label{tab:performance-results}
\label{eq:optimization-function}

% Non-breaking spaces
Figure~\ref{fig:example} shows...
```

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9. Advanced Features

Multiple References

```
% Range of figures
Figures~\ref{fig:first}--\ref{fig:last} illustrate...

% Multiple items with cleveref
\cref{fig:diagram,tab:results,eq:formula} demonstrate...
```

Custom Reference Names

```
% With hyperref
\autoref{fig:example} % Automatically says "Figure X"

% Custom names with cleveref
\crefname{algorithm}{Algorithm}{Algorithms}
\Crefname{algorithm}{Algorithm}{Algorithms}
```

Appendix References

```
\appendix
\section{Additional Data}
\label{app:additional-data}

% Reference
Additional information is provided in \autoref{app:additional-data}...
```

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10. Quality Checklist

Before submitting your document:

- ☐ All figures have descriptive captions and labels
- ☐ All tables use professional formatting (booktabs)
- ☐ All equations referenced in text are numbered and labeled
- ☐ All citations appear in the bibliography
- ☐ No hardcoded reference numbers
- ☐ Consistent label naming convention used
- ☐ Non-breaking spaces used before references
- ☐ Document compiles without undefined reference warnings
- ☐ All images are high quality and properly sized
- ☐ Bibliography style is consistent and complete

Quick Reference Card

Element	Code	Reference
Figure	`\label{fig:name}`	`\autoref{fig:name}`
Table	`\label{tab:name}`	`Table~\ref{tab:name}`
Equation	`\label{eq:name}`	`\autoref{eq:name}`
Section	`\label{sec:name}`	`\autoref{sec:name}`
Citation	`smith2023` in .bib	`\cite{smith2023}`

Remember: Quality references make your document professional, navigable, and maintainable!