

Introduction to LaTeX (Part 1)

Pasindu Thenahandi

CS 800

Current draft: 2/3/26 at 2:39am EDT

My Name is Pasindu Thenahandi. I am a Ph.D. student in the NIRDS Lab, Department of Computer Science at Old Dominion University.

1 URIs

This is a formatted, clickable link to my webpage: https://www.cs.odu.edu/~cs_psank002/

2 Images

All figures must have a caption and must be referenced in the text. See the example below.

Figure 1 shows an original PNG with no scaling or cropping. The original dimensions are 286 x 339. Figure 2 shows an example of cropping the image using the `trim`, `clip` options to `includegraphics`.



Figure 1: Original PNG

Figure 3 shows the same cropping as Figure 2 but scaled up. It's blurry because the original image (Figure 1 was a low resolution.)

We can insert PDFs into the document in the same way as images. Figure 4 is the first page of an academic paper. I've added the `\frame` command to show where the boundaries are. Figure 5 shows the margins trimmed off so that the text can be larger (scaled up).



Figure 2: Cropped JPG - 0.25in from left, 0.5in from bottom, 1in from right, 0.3in from top

3 Quotation Marks

Quotation marks are weird in LaTeX. Here's using "double quotes". *Not quite right.* Here's the "proper way". It's two backticks and two single quotes: ``proper way''

Below is a different sentence with Quotation Marks.

When writing papers, students may think "this looks okay", but LaTeX prefers typographically correct quotes, so the label "example text" is better written as *properly quoted text*, and the code sample demonstrates the ``recommended'' approach.

4 Tables

Table 1 shows a simple example table. Table 2 shows an example confusion matrix from https://en.wikipedia.org/wiki/Confusion_matrix. This employs rows that span multiple columns (multicol) and columns that span multiple rows (multirow).

Table 1: Course Schedule Overview

Week	Date	Topic
1	Jan 10, 12	Course Overview and Tools
2	Jan 17, 19	Data Types and Preprocessing
3	Jan 24, 26	Visual Encoding and Design Principles

Table 2: Sample Binary Classification Results

		Actual	
		Positive	Negative
Predicted	Positive	42	8
	Negative	5	45



Figure 3: Cropped and scaled PNG

How the Graduate Program Will Help Achieve My Goals

I'm a graduate student at university of Moratuwa, Sri Lanka, where I have maintained a strong academic record with a good GPA. During my undergraduate studies in Electronic & Telecommunication Engineering, I developed a strong foundation in programming, statistics, and research methodologies. I was introduced to data science through several university projects, which deepened my curiosity and passion for the field.

I am applying to the graduate program in Data Science to deepen my knowledge and contribute to the intersection of human-computer interaction, machine learning, and neuroscience. I believe that through this program, I will gain the necessary technical skills, domain expertise, and research experience to make significant contributions to these fields and develop new innovative tools that make data analysis more efficient and insightful.

My short-term professional goal is to work as a data scientist in a research-driven environment, where I can apply machine learning and data analytics to study human behavior through eye-tracking data. In the long term, I aim to lead research initiatives that focus on developing novel methods to analyze and interpret eye-tracking data, particularly in domains like education, user experience design, and healthcare diagnostics. These applications have the potential to significantly enhance the quality of life for individuals, and I want to be part of the research that brings these solutions to the forefront.

I am particularly excited about the faculty's expertise in data science, as well as the program's strong emphasis on interdisciplinary research. The opportunity to work with leading experts who are pushing the boundaries of what eye tracking can achieve in understanding human behavior is one of the key reasons I am applying to your university. The program's curriculum, which integrates machine learning, data visualization, and research methods, will equip me with the technical and analytical skills required to handle complex datasets. Additionally, access to state-of-the-art labs equipped with eye-tracking devices and other advanced technologies will allow me to work on real-world datasets and develop new methods for capturing and interpreting eye-tracking data. This practical experience will be invaluable in honing my research techniques, preparing me for the complex challenges I will face as a data scientist.

Furthermore, the research projects and collaborations that are part of the program will provide me with opportunities to network with professionals and academics from diverse fields. This network will be instrumental in helping me stay at the forefront of new developments in data science and human-computer interaction, as well as opening doors for potential partnerships and career opportunities in both academia and industry.

In conclusion, I am confident that this graduate program will provide me with the knowledge, tools, and network needed to achieve my professional goals. By focusing on data science and eye tracking, I will not only enhance my technical capabilities but also contribute to the advancement of research that has a real-world impact. I look forward to the opportunity to contribute to your academic community and to growing as a researcher and professional in this exciting field.

Figure 4: Inserted PDF

How the Graduate Program Will Help Achieve My Goals

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Figure 5: Trimmed PDF