Organized *Curriculum Vitae* Construction using LaTeX

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Abstract—**Handling Curriculum Vitae document layout with word processor is quite difficult. LaTeX is a markup typesetting commonly used in many academic work and provides a unique way of organizing and styling a document. This makes construction a Curriculum Vitae construction using LaTeX custom class can be a lot more organized.**

Keywords—*LaTeX; typesetting; Curriculum Vitae; LaTeX class; markup*

I. INTRODUCTION

Curriculum Vitae (CV) is an important part of a career. A great curriculum vitae is one of the integral part of joining a great company and being recognized by other people. However, constructing and managing a curriculum vitae layout using a word processor is quite difficult and sometimes left with a simple and plain CV. Using an image processing can create a unique CV, but with the cost of the additional difficulty in managing CV content.

LaTeX is a good alternative in curriculum vitae construction; since it could manage both document content and style discretely, it can create both beautiful and manageable curriculum vitae. A good curriculum vitae is one that is frequently updated with recent accomplishment. As one of the most popular typesetting system, updating CV created in LaTeX as easy as updating a piece of code.

II. LITERATURE STUDIES

A. LaTeX

LaTeX is one of derivative work of TeX Typesetting System created by Lesley Lamport. TeX is created by Donald Knuth with the intention of creating a consistent and high-quality digital literature system. LaTeX itself is using a markup language to create and stylize the document; in this department, LaTeX is quite similar to the famous HTML used in world-wide-web. The usage of LaTeX makes the author of a document focuses on the document content, and only taking care of the document style afterward; hence, it is quite different compared to the WYSIWYG system used in Microsoft Word and other word processing software.

LaTeX has already included a default formatting system such as font styling, margin, tables, equation, sections, etc. This makes creating a simple document in LaTeX is as easy as creating a Hello World program in any other language.

LaTeX is mainly used in the academic world to create a paper which needs some complex styling system such as math, physics, engineering, and computer science. In software engineering LaTeX also used to create a comprehensive software documentation.

Most of the command in LaTeX is started with a backslash (\) and the data for a command is passed between two curly braces ({}). As a software engineer, a LaTeX command is equivalent to a function or a method, it has a specific name and specific input parameters; a command will do certain things in certain order. Like common programming, LaTeX provides some basic command that can be combined to create a custom complex command.

As an example, defining a class of a LaTeX document can be declared with `\documentclass{classname}`. A document in LaTeX follow a certain typesetting rules based on its class. However, LaTeX can use a different typesetting style in a certain part of a document called environment. LaTeX uses two specific commands to start and finish a certain environment within a document, those are `\begin{env}` and `\end{env}`. Similar to LaTeX commands, LaTeX environment and class is also user customizable. This makes creating a new document template that can be reused is much easier than creating another document from scratch.

III. Case Studies

A. Construction Method

One of the best ways to create a customized document such as CV in LaTeX is to create our own LaTeX class. A LaTeX class usually saved in a different file than the document itself; typically file with .cls extension. This file mainly contains the class identification, import of other LaTeX packages, declaration of an environment, custom command, and other options needed in the LaTeX class file. A LaTeX class can also a derivative of another existing LaTeX class.

The first thing to do is creating a class definition and importing the packages that will be used in our custom class. In this example, the author will give an example of a LaTeX class based on the existing LaTeX article class. The author will also use a package called titlesec to manage some of the CV section.

```
\ProvidesClass{myclass}[2017/05/03 My Custom CV
Class]
\NeedsTeXFormat{LaTeX2e}

\LoadClass{article}
\RequirePackage{titlesec}
```

The next thing is to set the typesetting option and add some custom command that will be used in this class.

```
\titleformat{\section}

{\LARGE\bfseries\centering}{\thesection}{1em}{}

\titleformat{\subsection}
  {\LARGE\bfseries}{\thesection}{1em}{}

\titleformat{\subsubsection}
  {\normalfont}{\thesection}{1em}{}

\newcommand{\name}[1] {
  \section{#1}
}

\newcommand{\datedsubsubsection}[2]{
  \subsubsection[#1]{#1 \hfill #2}
}
```

As an example, a document built using this class is:
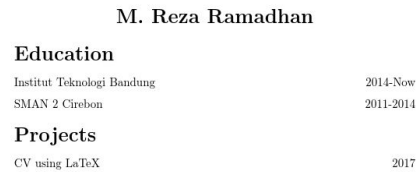
```
\documentclass{myclass}

\begin{document}

\name{M. Reza Ramadhan}

\subsection{Education}
\datedsubsubsection{Institut Teknologi
Bandung}{2014-Now}
\datedsubsubsection{SMAN 2 Cirebon}{2011-2014}

\subsection{Projects}
\datedsubsubsection{CV using LaTeX}{2017}
```

```
\end{document}
```

This document can produce the following figure.

Figure 1. Custom CV with LaTeX

B. Template Utilization

Another more popular method is to use an available template or custom LaTeX class found on the internet. This method is easier and doesn't require an extensive knowledge of LaTeX. The only thing that needs to be done is to use the command correctly and fill the sections according to our needs.
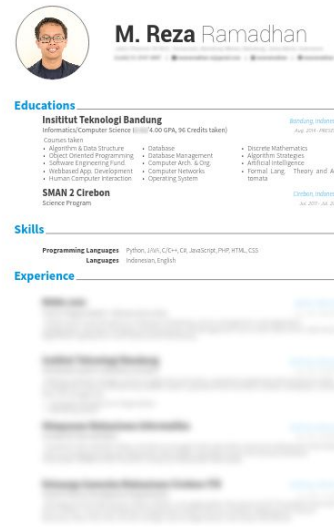

Figure 2. CV creation using a template

Figure 2 is a result of the author's CV built using Awesome-CV template found on github[5] to create a simple CV.

IV. Conclusion

CV construction method using LaTeX is in some ways better than another method such as using a word processor and image editing software. Using LaTeX makes our CV more structured since we can split the CV section into some different files. This method also makes our CV is trackable by Version Control Software such as git; the changes in our CV is

tracked and can be restored anytime we want.

The LaTeX learning curve is quite high since the syntax is quite different from other programming or markup language. makes creating CV using LaTeX quite difficult and time-consuming. The only obstacle in using LaTeX as a means to create CV is this one. However, when we can pass through this obstacle, we will get a beautiful and organized CV.

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DECLARATION

With this statement, the author hereby states that this paper is one of the author's own writing; it is not a work of adoption, translation, nor a plagiarism.

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