

FanTeX

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Abstract

FanTeX is a simple editor for writing professional academic papers based on \LaTeX . The objective is to let researchers focus on content production by hiding the messy details of composing TeX files.

1 Introduction

FanTeX is a simple editor made for writing professional academic papers based on \LaTeX . It is developed by [Dr. Mingze Gao](#) from the University of Sydney during his postdoctoral fellowship. The program is written in Python and Qt6 and open-sourced on GitHub.^{[1](#)} Interestingly, this PDF file is compiled from tex generated by \PyLaTeX in pure Python. The source code is available in Appendix [A.1](#).

¹GitHub repo: <https://github.com/mgao6767/FanTeX>

A Appendix

A.1 Source code

The code to generate this file is as below.

```
1  import pathlib
2  from shutil import rmtree
3  from pylatex import Document, Section, Subsection, Command, Package
4  from pylatex.base_classes import Environment, Arguments, Options
5  from pylatex.utils import NoEscape
6
7
8  class Minted(Environment):
9      _latex_name = "minted"
10     packages = [Package("minted")]
11     _escape = False
12     content_separator = "\n"
13
14     def __init__(self, language="python"):
15         options = Options("linenos", NoEscape(r"fontsize=\footnotesize"))
16         arguments = Arguments(language)
17         super().__init__(options=options, arguments=arguments)
18
19
20  class Abstract(Environment):
21      _latex_name = "abstract"
22
23
24  def _(doc, text):
25      doc.append(NoEscape(text))
26
27
28  def doc_abstract(doc):
29      with doc.create(Abstract()):
30          doc.append(Command("noindent"))
31          _(
32              doc,
33              r"FanTeX is a simple editor for writing professional academic\
34              papers based on \LaTeX. The objective is to let researchers focus\
35              on content production by hiding the messy details of composing\
36              TeX files.",
37          )
38
39
40  def doc_introduction(doc):
41      doc.append(Command("clearpage"))
42      with doc.create(Section("Introduction")):
43          _(
44              doc,
45              r"FanTeX is a simple editor made for writing professional\
46              academic papers based on \LaTeX. It is developed by\
```

```

47         \href{https://mingze-gao.com}{Dr. Mingze Gao}\
48         from the University of Sydney during his postdoctoral fellowship.\
49         The program is written in Python and Qt6 and open-sourced on\
50         GitHub.\footnote{GitHub repo: \url{https://github.com/mgao6767/FanTeX}}\
51         Interestingly, this PDF file is compiled from tex generated by\
52         \mintinline{python}{PyLaTeX} in pure Python. The source code is\
53         available in Appendix \ref{subsec:sourcecode}.",
54     )
55
56
57 def doc_appendix(doc):
58     # Embedd this Python code to the tex file
59     doc.append(Command("clearpage"))
60     doc.append(Command("appendix"))
61     with doc.create(Section("Appendix", label="appendix")):
62         with doc.create(Subsection("Source code", label="sourcecode")):
63             doc.append("The code to generate this file is as below.")
64             doc.append(Command("singlespacing"))
65             with doc.create(Minted()) as minted:
66                 minted.append(open(__file__).read())
67
68
69 def main(output_path="."):
70
71     filename = "FanTeX"
72     geometry_options = {"margin": "1in"}
73     doc = Document(geometry_options=geometry_options)
74     doc.documentclass = Command(
75         "documentclass", options=["12pt"], arguments=["article"]
76     )
77     doc.content_separator = "\n"
78     doc.packages.append(Package("minted"))
79     doc.packages.append(Package("setspace"))
80     doc.packages.append(Package("indentfirst"))
81     # hyperref must be loaded last to avoid breaking the PDF bookmark hierarchy
82     doc.packages.append(Package("hyperref"))
83     doc.preamble.append(
84         Command(
85             "hypersetup",
86             "colorlinks, citecolor=blue, linkcolor=blue, urlcolor=blue",
87         )
88     )
89     doc.preamble.append(
90         Command(
91             "newcommand",
92             options=["1"],
93             arguments=[NoEscape("\email")],
94             extra_arguments=NoEscape("{\href{mailto:#1}{#1}}"),
95         )
96     )
97     fn = r"\footnotetext{Mingze Gao: University of Sydney Business School, \
98         University of Sydney, NSW 2006 Australia; \
99         Email: \email{mingze.gao@sydney.edu.au}.}"
100     doc.preamble.append(Command("title", NoEscape(rf"FanTeX{fn}")))

```

```

101     doc.preamble.append(Command("author", "Mingze Gao"))
102     doc.append(NoEscape(r"\maketitle"))
103
104     # Abstract
105     doc_abstract(doc)
106
107     doc.append(Command("doublespacing"))
108     # Introduction
109     doc_introduction(doc)
110     # Appendix
111     doc_appendix(doc)
112
113     # Compile the PDF
114     doc.generate_pdf(
115         pathlib.Path(output_path).joinpath(filename),
116         clean=True,
117         clean_tex=False,
118         compiler_args=["--shell-escape", "-f"],
119     )
120
121     # Remove folder created by minted
122     rmtree(pathlib.Path(output_path).joinpath(f"_minted-{filename}"))
123
124
125 if __name__ == "__main__":
126     main()
127

```