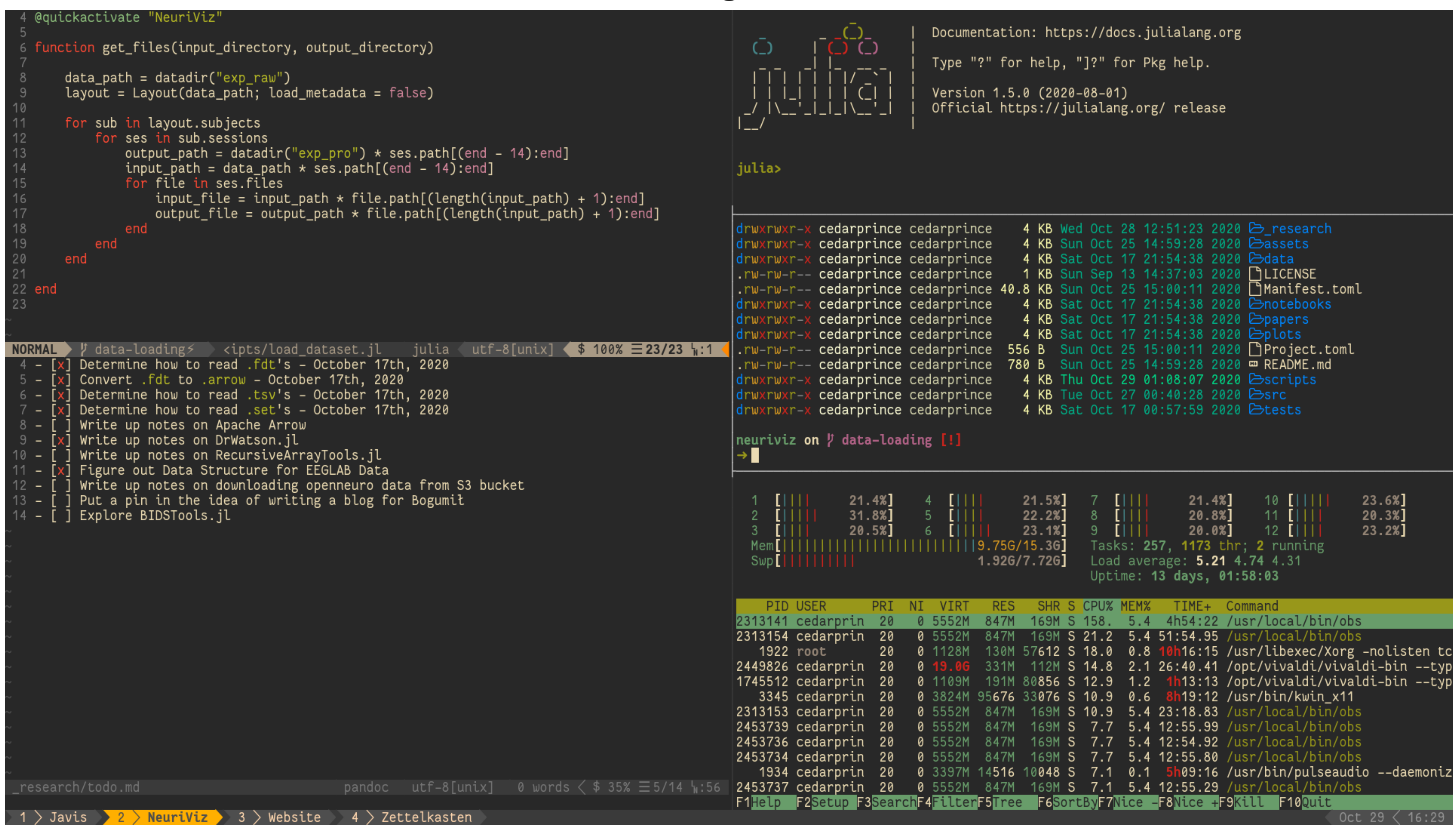


```
@quickactivate "NeuriViz"

function get_files(input_directory, output_directory)

    data_path = datadir("exp_raw")
    layout = Layout(data_path; load_metadata = false)

    for sub in layout.subjects
        for ses in sub.sessions
            output_path = datadir("exp_pro") * ses.path[(end - 14):end]
            input_path = data_path * ses.path[(end - 14):end]
            for file in ses.files
                input_file = input_path * file.path[(length(input_path) + 1):end]
                output_file = output_path * file.path[(length(input_path) + 1):end]
            end
        end
    end

end

NORMAL  data-loading⚡  <ipts/load_dataset.jl   julia  utf-8[unix]  $ 100% ☰23/23 ㏑:1
- [x] Determine how to read .fdt's - October 17th, 2020
- [x] Convert .fdt to .arrow - October 17th, 2020
- [x] Determine how to read .tsv's - October 17th, 2020
- [x] Determine how to read .set's - October 17th, 2020
- [ ] Write up notes on Apache Arrow
- [x] Write up notes on DrWatson.jl
- [ ] Write up notes on RecursiveArrayTools.jl
- [x] Figure out Data Structure for EEGLAB Data
- [ ] Write up notes on downloading openneuro data from S3 bucket
- [ ] Put a pin in the idea of writing a blog for Bogumił
- [ ] Explore BIDSTools.jl

_research/todo.md            pandoc   utf-8[unix]   0 words < $ 35% ☰5/14 ㏑:56
 1 > Javis   2 > NeuriViz   3 > Website   4 > Zettelkasten
```

```
               _
   _       _ _(_)_     |  Documentation: https://docs.julialang.org
  (_)     | (_) (_)    |
   _ _   _| |_  __ _   |  Type "?" for help, "]?" for Pkg help.
  | | | | | | |/ _` |  |
  | | |_| | | | (_| |  |  Version 1.5.0 (2020-08-01)
 _/ |\__'_|_|_|\__'_|  |  Official https://julialang.org/ release
|__/                   |

julia>

drwxrwxr-x cedarprince cedarprince    4 KB Wed Oct 28 12:51:23 2020 _research
drwxrwxr-x cedarprince cedarprince    4 KB Sun Oct 25 14:59:28 2020 assets
drwxrwxr-x cedarprince cedarprince    4 KB Sat Oct 17 21:54:38 2020 data
.rw-rw-r-- cedarprince cedarprince    1 KB Sun Sep 13 14:37:03 2020 LICENSE
.rw-rw-r-- cedarprince cedarprince 40.8 KB Sun Oct 25 15:00:11 2020 Manifest.toml
drwxrwxr-x cedarprince cedarprince    4 KB Sat Oct 17 21:54:38 2020 notebooks
drwxrwxr-x cedarprince cedarprince    4 KB Sat Oct 17 21:54:38 2020 papers
drwxrwxr-x cedarprince cedarprince    4 KB Sat Oct 17 21:54:38 2020 plots
.rw-rw-r-- cedarprince cedarprince  556 B  Sun Oct 25 15:00:11 2020 Project.toml
.rw-rw-r-- cedarprince cedarprince  780 B  Sun Oct 25 14:59:28 2020 README.md
drwxrwxr-x cedarprince cedarprince    4 KB Thu Oct 29 01:08:07 2020 scripts
drwxrwxr-x cedarprince cedarprince    4 KB Tue Oct 27 00:40:28 2020 src
drwxrwxr-x cedarprince cedarprince    4 KB Sat Oct 17 00:57:59 2020 tests

neuriviz on  data-loading [!]
→

  1  [||||      21.4%]   4  [||||      21.5%]   7  [||||      21.4%]   10 [|||||     23.6%]
  2  [|||||     31.8%]   5  [||||      22.2%]   8  [||||      20.8%]   11 [||||      20.3%]
  3  [||||      20.5%]   6  [|||||     23.1%]   9  [||||      20.0%]   12 [||||      23.2%]
  Mem[||||||||||||||||||||||||||9.75G/15.3G]   Tasks: 257, 1173 thr; 2 running
  Swp[||||||||||                1.92G/7.72G]   Load average: 5.21 4.74 4.31
                                               Uptime: 13 days, 01:58:03

    PID USER      PRI  NI  VIRT   RES   SHR S CPU% MEM%   TIME+  Command
2313141 cedarprin  20   0 5552M  847M  169M S 158.  5.4  4h54:22 /usr/local/bin/obs
2313154 cedarprin  20   0 5552M  847M  169M S 21.2  5.4 51:54.95 /usr/local/bin/obs
   1922 root       20   0 1128M  130M 57612 S 18.0  0.8 10h16:15 /usr/libexec/Xorg -nolisten tc
2449826 cedarprin  20   0 19.0G  331M  112M S 14.8  2.1 26:40.41 /opt/vivaldi/vivaldi-bin --typ
1745512 cedarprin  20   0 1109M  191M 80856 S 12.9  1.2  1h13:13 /opt/vivaldi/vivaldi-bin --typ
   3345 cedarprin  20   0 3824M 95676 33076 S 10.9  0.6  8h19:12 /usr/bin/kwin_x11
2313153 cedarprin  20   0 5552M  847M  169M S 10.9  5.4 23:18.83 /usr/local/bin/obs
2453739 cedarprin  20   0 5552M  847M  169M S  7.7  5.4 12:55.99 /usr/local/bin/obs
2453736 cedarprin  20   0 5552M  847M  169M S  7.7  5.4 12:54.92 /usr/local/bin/obs
2453734 cedarprin  20   0 5552M  847M  169M S  7.7  5.4 12:55.80 /usr/local/bin/obs
   1934 cedarprin  20   0 3397M 14516 10048 S  7.1  0.1  5h09:16 /usr/bin/pulseaudio --daemoniz
2453737 cedarprin  20   0 5552M  847M  169M S  7.1  5.4 12:55.29 /usr/local/bin/obs
F1Help  F2Setup F3SearchF4FilterF5Tree  F6SortByF7Nice -F8Nice +F9Kill  F10Quit
                                                                      Oct 29 < 16:29
```

My Writing & Coding Workflow

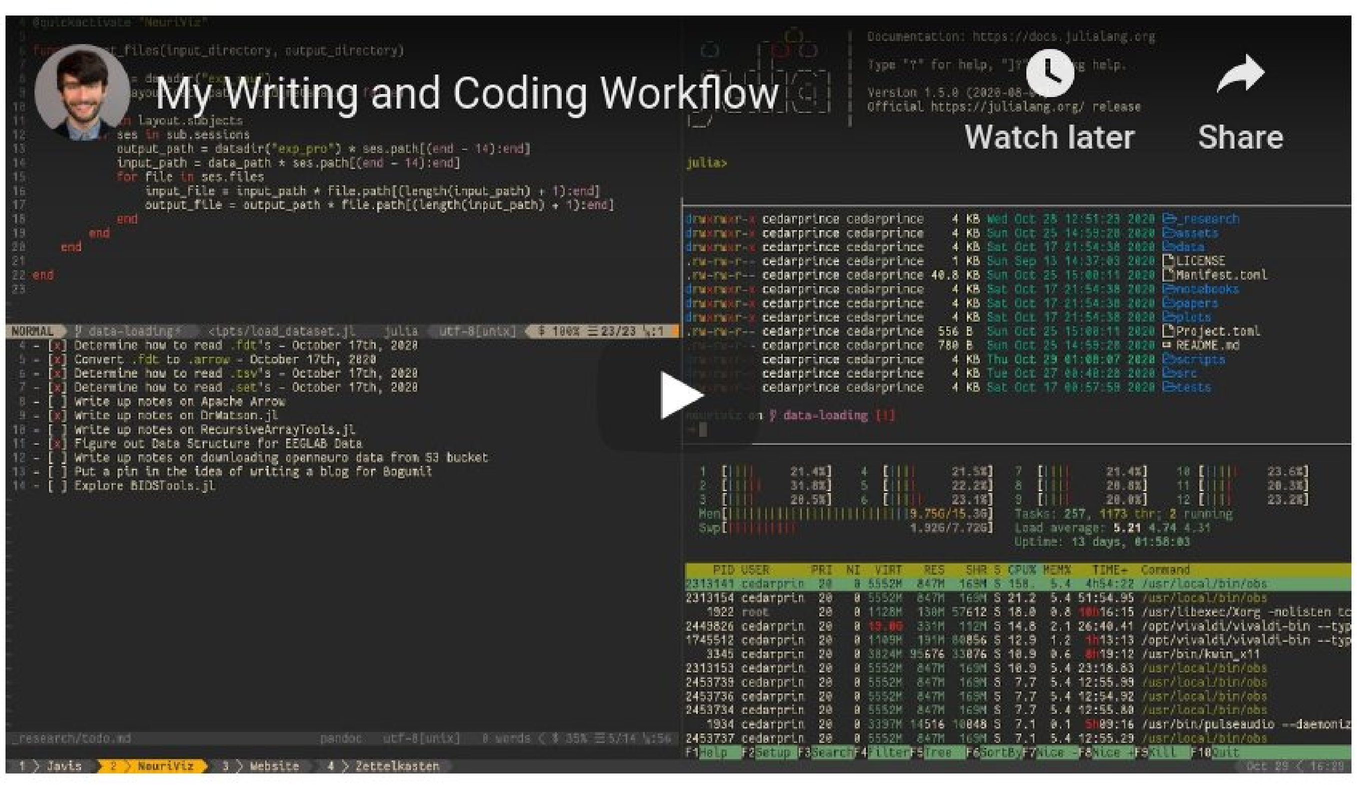
by Jacob Zelko
4 min read
• *October 29, 2020*

My personal workflow for terminal-based coding, writing, research, and more!

Hello everyone! It has been quite sometime since I last posted! Suffice it to say, I have been immensely busy the past year but I am happy to say I am able to resurrect this blog! 🎉

I have thoroughly grown into my own workflow for programming, research, and writing. Today, I am happy to be able to share it with you!

If you prefer to watch a video describing most of this entire process, here is an overview of my workflow from one of my live streams. It does not go as in-depth as this document but should serve as a strong complement to this post. 😄



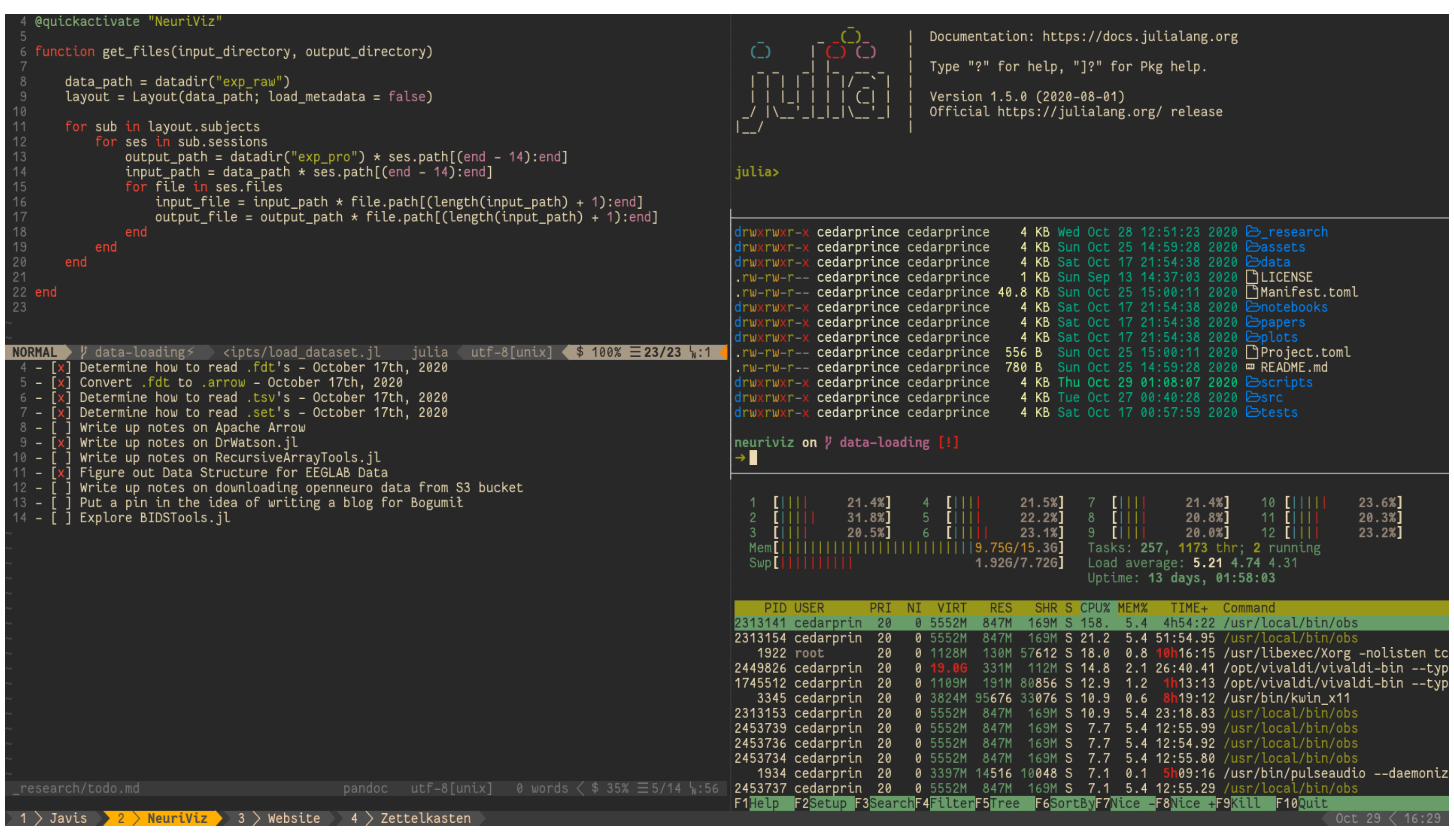
My Workflow Tools of Choice

I use Alacritty as my terminal, zsh and oh-my-zsh as my shell and plugin manager respectively, tmux as my multiplexer, lsd as my list command with fun icons, Fantasque Sans Mono as my typeface font, neovim for my editor, fzf paired with ripgrep for speedy and interactive file finding, bat an enhanced `cat` with a git diff gutter, pandoc for writing in markdown and LaTeX and outputting the piece to whatever file type I want, Zotero for managing my collection on scientific literature, ranger as a terminal-based file explorer, and gruvbox-dark as my general color palette.

Here are gists to the relevant config files I use to modify my interface and user experience:

- **neovim**: init.vim
- **Alacritty**: .alacritty.yml
- **tmux**: .tmux.conf
- **zsh**: .zshrc

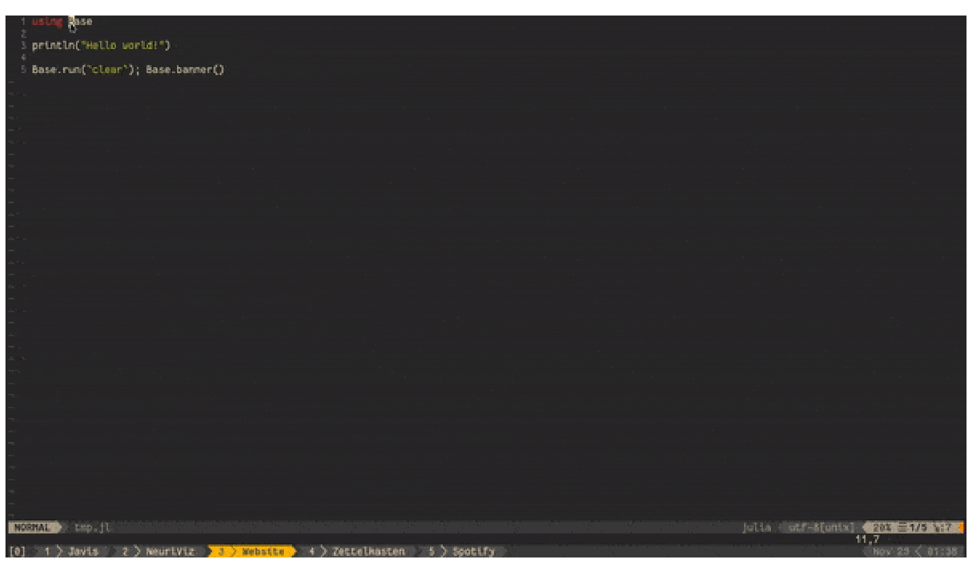
Here is a picture of what that looks like altogether:



My Workflow in Action 💥

The following sections describe in broad strokes my workflow. I mention some plugins that I use and are provided in my config files. If you want to learn more about them, I encourage you to read through my config files or search for them.

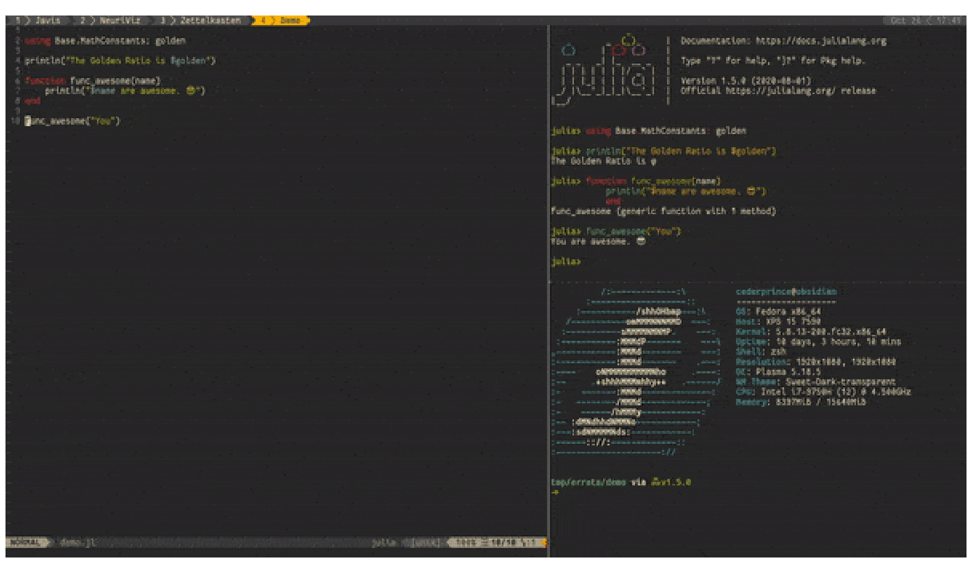
Floating Terminals



```
using Base

println("Hello world!")

Base.run(`clear`); Base.banner()
```

Floating terminals are immensely powerful and I love them! This enables me to quickly pull up a terminal and do some changes without having to split tmux panes or get out of vim. Furthermore, what is awesome is that you can use it as a sort of `vim-slime` tool to send lines of code to the floating terminal. This is a great feature as it uses your last used floating terminal for its target - therefore, if you switch between projects a lot, just switch your floating terminal accordingly. No need to keep opening and closing REPL sessions and such!

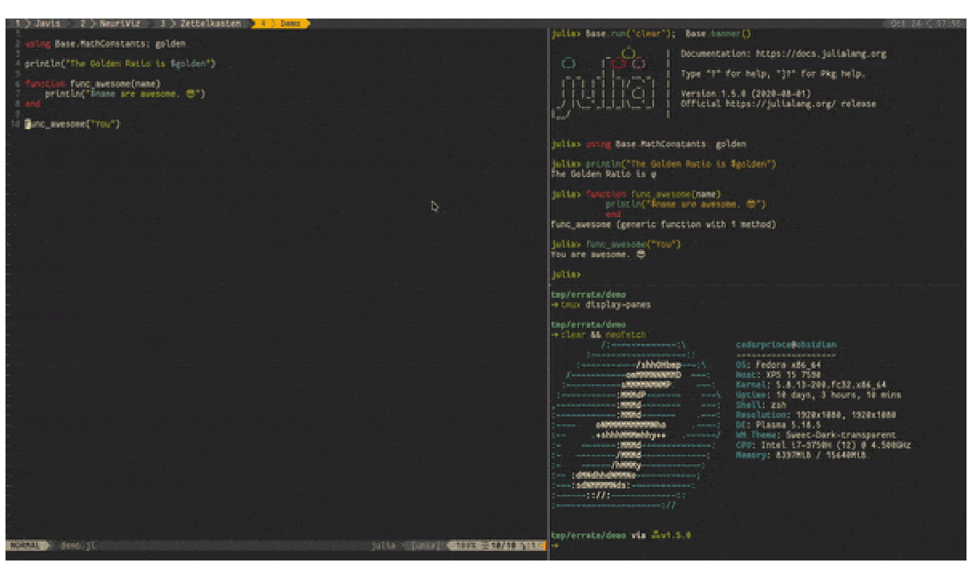
Persistent Working Sessions via tmux



Though it is a little hard to see, I closed my terminal completely. Oh no! All my paneling and windows have disappeared! I'll have to spend valuable time getting my workflow set back up… Or do I?

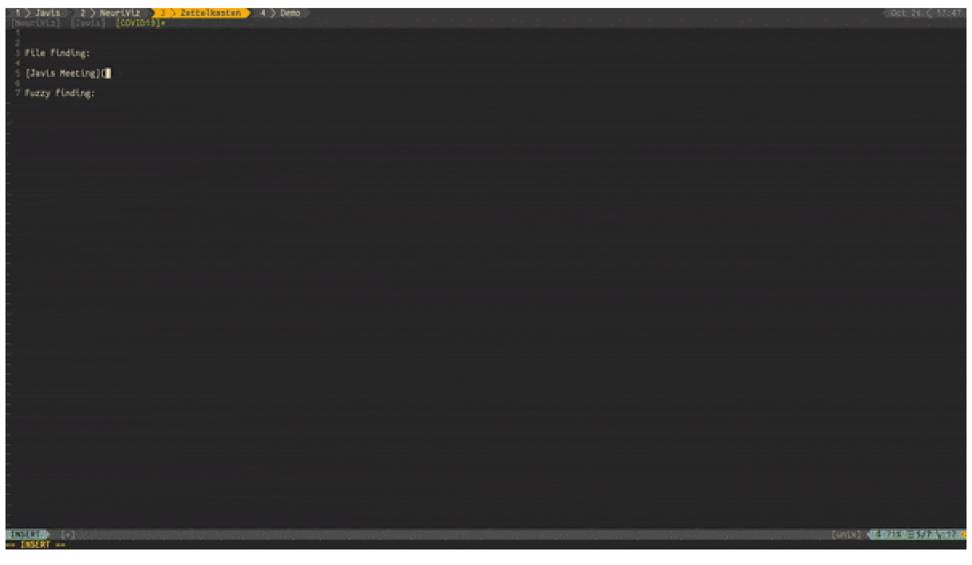
tmux can actually remember all these layouts with the plugins, `resurrect` and `continuum`. This is great for when your computer unexpectedly dies or crashes as everything is backed up at regular intervals you define! Furthermore, pairing the (neo)vim plugin, `obsession`, allows tmux to also automatically recover vim layouts and sessions as well. You will never have to worry about losing your terminal workflow again!

Mouse Mode



tmux and (neo)vim also support mouse mode and interactivity! I can quickly jump all over the place with my mouse or easily resize any opened pane.

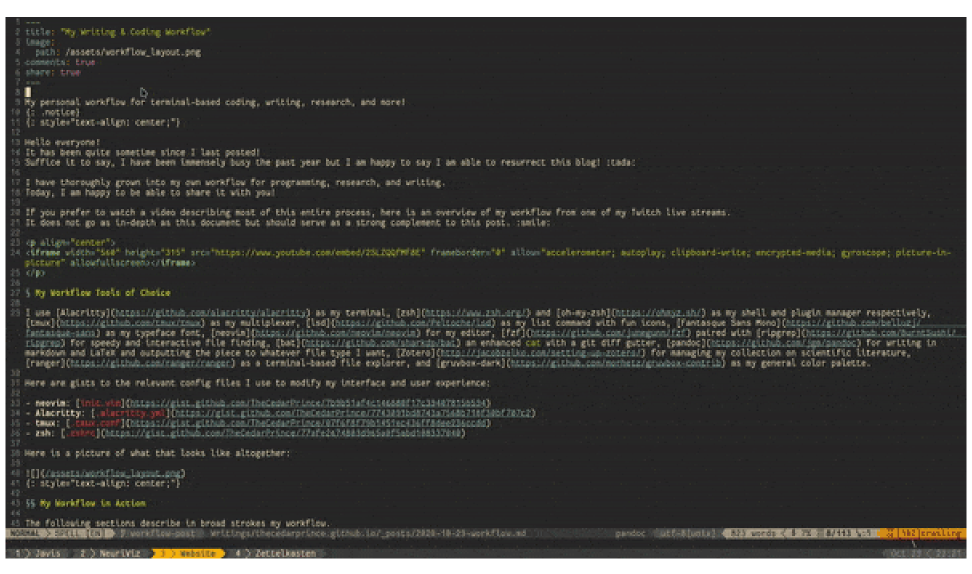
Interactive File Finding



```
File finding:

[Javis Meeting](

Fuzzy finding:
```

I integrated the powerful file finding tool, fzf , with ripgrep to quickly find files I am looking to use. Then, in my (neo)vim configuration file, I merged these two together into one function that I can easily call while editing files in (neo)vim. find files I search for and pandoc to enable citations in pandoc, markdown, or TeX files.

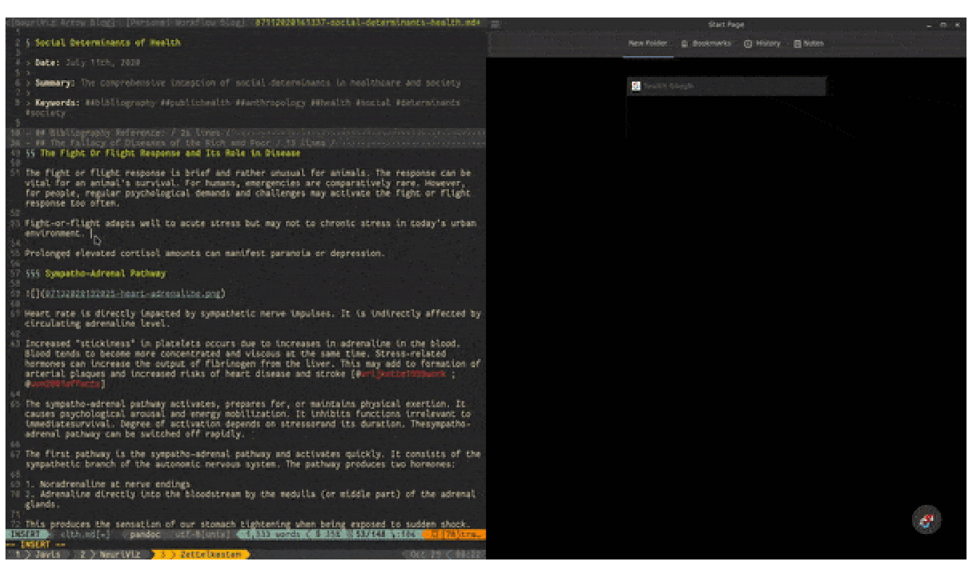
Terminal-Based File Explorer



```
---
title: "My Writing & Coding Workflow"
image:
  path: /assets/workflow_layout.png
comments: true
share: true
---

My personal workflow for terminal-based coding, writing, research, and more!
{: .notice}
{: style="text-align: center;"}

Hello everyone!
It has been quite sometime since I last posted!
Suffice it to say, I have been immensely busy the past year but I am happy to say I am able to resurrect this blog! :tada:

I have thoroughly grown into my own workflow for programming, research, and writing.
Today, I am happy to be able to share it with you!

If you prefer to watch a video describing most of this entire process, here is an overview of my workflow from one of my Twitch live streams.
It does not go as in-depth as this document but should serve as a strong complement to this post. :smile:

<p align="center">
<iframe width="560" height="315" src="https://www.youtube.com/embed/23LZQQfMfdE" frameborder="0" allow="accelerometer; autoplay; clipboard-write; encrypted-media; gyroscope; picture-in-picture" allowfullscreen></iframe>
</p>

## My Workflow Tools of Choice

I use [Alacritty](https://github.com/alacritty/alacritty) as my terminal, [zsh](https://www.zsh.org/) and [oh-my-zsh](https://ohmyz.sh/) as my shell and plugin manager respectively, [tmux](https://github.com/tmux/tmux) as my multiplexer, [lsd](https://github.com/Peltoche/lsd) as my list command with fun icons, [Fantasque Sans Mono](https://github.com/belluzj/fantasque-sans) as my typeface font, [neovim](https://github.com/neovim/neovim) for my editor, [fzf](https://github.com/junegunn/fzf) paired with [ripgrep](https://github.com/BurntSushi/ripgrep) for speedy and interactive file finding, [bat](https://github.com/sharkdp/bat) an enhanced cat with a git diff gutter, [pandoc](https://github.com/jgm/pandoc) for writing in markdown and LaTeX and outputting the piece to whatever file type I want, [Zotero](http://jacobzelko.com/setting-up-zotero/) for managing my collection on scientific literature, [ranger](https://github.com/ranger/ranger) as a terminal-based file explorer, and [gruvbox-dark](https://github.com/morhetz/gruvbox-contrib) as my general color palette.

Here are gists to the relevant config files I use to modify my interface and user experience:

- neovim: [init.vim](https://gist.github.com/TheCedarPrince/[illegible])
- Alacritty: [.alacritty.yml](https://gist.github.com/TheCedarPrince/[illegible])
- tmux: [.tmux.conf](https://gist.github.com/TheCedarPrince/[illegible])
- zsh: [.zshrc](https://gist.github.com/TheCedarPrince/[illegible])

Here is a picture of what that looks like altogether:

![](/assets/workflow_layout.png)
{: style="text-align: center;"}

## My Workflow in Action

The following sections describe in broad strokes my workflow.
```

Furthermore, I also use the great tool, ranger , which allows me to have a terminal based file explorer. It's nice as it pops up in its own window and does not actually directly interfere with any of the background files being edited. It even has image preview capabilities!

Citation Engine & Live Preview



```
# Social Determinants of Health

> Date: July 11th, 2020
>
> Summary: The comprehensive inception of social determinants in healthcare and society
>
> Keywords: ##bibliography ##publichealth ##anthropology ##health #social #determinants #society

- ## Bibliography Reference: / 26 lines /
- ## The Fallacy of Diseases of the Rich and Poor / 13 lines /
## The Fight Or Flight Response and Its Role in Disease

The fight or flight response is brief and rather unusual for animals. The response can be vital for an animal's survival. For humans, emergencies are comparatively rare. However, for people, regular psychological demands and challenges may activate the fight or flight response too often.

Fight-or-flight adapts well to acute stress but may not to chronic stress in today's urban environment.

Prolonged elevated cortisol amounts can manifest paranoia or depression.

### Sympatho-Adrenal Pathway

![](20200710192025-heart-adrenaline.png)

Heart rate is directly impacted by sympathetic nerve impulses. It is indirectly affected by circulating adrenaline level.

Increased "stickiness" in platelets occurs due to increases in adrenaline in the blood. Blood tends to become more concentrated and viscous at the same time. Stress-related hormones can increase the output of fibrinogen from the liver. This may add to formation of arterial plaques and increased risks of heart disease and stroke [@[illegible] ; @[illegible]]

The sympatho-adrenal pathway activates, prepares for, or maintains physical exertion. It causes psychological arousal and energy mobilization. It inhibits functions irrelevant to immediatesurvival. Degree of activation depends on stressorand its duration. Thesympatho-adrenal pathway can be switched off rapidly.

The first pathway is the sympatho-adrenal pathway and activates quickly. It consists of the sympathetic branch of the autonomic nervous system. The pathway produces two hormones:

1. Noradrenaline at nerve endings
2. Adrenaline directly into the bloodstream by the medulla (or middle part) of the adrenal glands.

This produces the sensation of our stomach tightening when being exposed to sudden shock.
```

As a researcher, this part gets me immensely excited! While I am writing, I can actively insert citation keys into whatever I am working on via vim-pandoc . With my config file, you will have to specify where your own .bib file exists. Furthermore, markdown-preview allows me to preview my markdown in a web browser and vim-latex-live-preview allows me to view my current TeX files in a pdf viewer – works for subfiles too! This works for whenever I write TeX files or markdown files which makes writing a breeze!

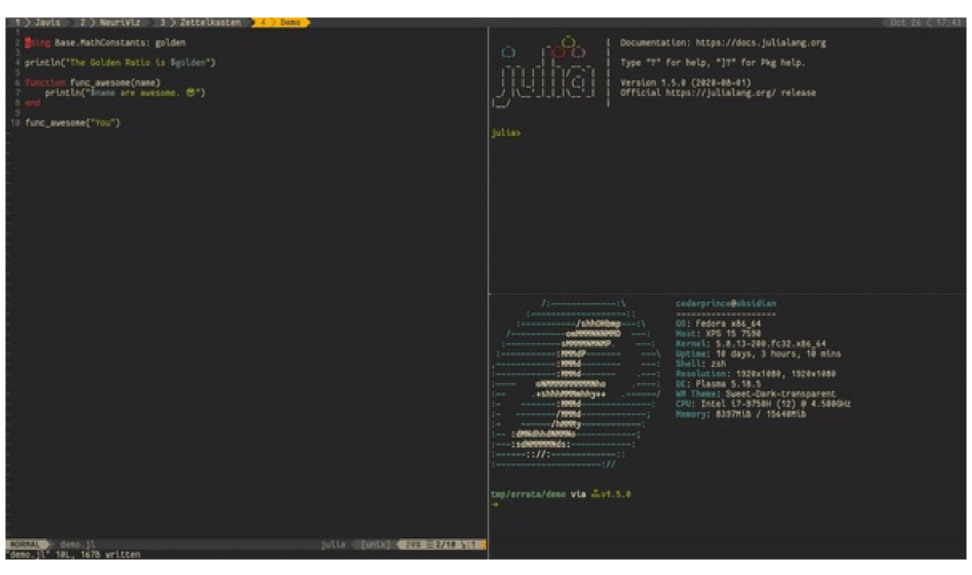
If any of this section is confusing, I strongly encourage you to read my article on Knowledge Management.

Deprecated Workflow Tools 💀

These are parts of my workflow that I used to use. They have been retired for a variety of reasons but all in an effort to improve my workflow. I have kept these around in case anyone finds it useful!

Vim-Slime for Rapid Evaluation

Rationale for deprecation: I used to use vim-slime but deprecated it from my workflow because of the flexibility of floating terminals. Not only could I use floating terminals to send code, I could also quickly flip through terminals in one button press.



```
using Base.MathConstants: golden

println("The Golden Ratio is $golden")

function func_awesome(name)
    println("$name are awesome. 😎")
end

func_awesome("You")
```

```
Documentation: https://docs.julialang.org

Type "?" for help, "]?" for Pkg help.

Version 1.5.0 (2020-08-01)
Official https://julialang.org/ release

julia>
```

```
cedarprince@obsidian
OS: Fedora x86_64
Host: XPS 15 7590
Kernel: 5.8.13-200.fc32.x86_64
Uptime: 10 days, 3 hours, 10 mins
Shell: zsh
Resolution: 1920x1080, 1920x1080
DE: Plasma 5.18.5
WM Theme: Sweet-Dark-transparent
CPU: Intel i7-9750H (12) @ 4.500GHz
Memory: 8397MiB / 15648MiB
```

Here, I target my Julia REPL in a tmux panel and use the vim-slime plugin to send code from my Julia script opened in neovim to the Julia REPL for rapid evaluation. This config works for any time you want to target a window. This also works for code chunks such as functions or loops!

Conclusion

I hope you found my workflow and toolchain interesting! My dream would be for this workflow to serve as inspiration for your own workflow. Make it your own and all the best!

If you spot any errors or have any questions, feel free to contact me about them!

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Previous
← Zotero – Simple Set-Up, Great Tool

Next
NeuriViz (Part I) – Performant Graphics for Neuroinformatics →