Contents

1	202	0 Autumn	1				
2	NMR						
	2.1	TODO Install Matlab	4				
	2.2	TODO Email Stephen about NMR for Project	2				
	2.3	TODO Derive an Equation for Damping	2				
	2.4	DONE Zoom Gang	2				
		2.4.1 TODO Learning Matlab	2				
	2.5	Zoom Meeting	2				
		2.5.1 DONE Where is the damn script?	ę				
		2.5.2 DONE Read the Printouts	ę				
		2.5.3 DONE Create a Presentation	9				
		2.5.4 TODO find a better agenda export	9				
		2.5.5 Add the Other Notes into the Org File	3				
	2.6	TODO Email Stephen about NMR for Project	3				
	2.7	Current Work	9				
	,	2.7.1 TODO Overheads					
3	Startup						
	3.1	Startup Programs	4				
	3.2	Preliminary	5				
4	Data Science Notes						
	4.1	Introduction to data science INTRODATASCI	6				
		4.1.1 Supervised Learning	6				
		4.1.2 Unsupervised Learning	6				
	4.2	Data Visualisation	6				
	4.3	Predictive Modelling	6				
_	3.5		_				
5	Mathematics						
	5.1	Abstract Algebra	6				
	5.2	Calculus ATTACH	6				
		5.2.1 preliminary	6				
		5.2.2 PDF Notes ATTACH	7				
		5.2.3 Analysis	7				
6	Stat	tistics ATTACH	8				
	6.1	Time Series Analysis	8				
	6.2	DONE add the Statistics Word Doc, PDF and Org Conversion	8				

7		Note Taking Manual					
8	7.1		anual for my strategy	9 9			
0	3 Journal						
9	Cur	rent Ir	nterests Evening	9			
	9.1		Programmin Languages	9			
		9.1.1	TODO Learn Python	9			
		9.1.2	TODO Learn Bash	9			
		9.1.3	TODO Learn Julia	9			
		9.1.4	TODO Learn Rust	9			
		9.1.5	TODO Learn to configure <i>Atom</i> so maybe JavaScript?	10			
	9.2	TODO	O Configure remote ssh	10			
		9.2.1	TODO Set up fingerprint	10			
	9.3		Learn Maxima Symbolic Algebra	10			
	9.4		Learn TeXMacs	10			
		9.4.1	DONE Investigate Snippets	10			
		9.4.2	Graphics	10			
		9.4.3	Investigate Snippets	10			
	9.5		Finish Data Camp	10			
	9.6		a Kaggle Problem	11			
	9.7		Dial in org-mode	11			
		9.7.1	Try configuring setq mouse-wheel speed	11			
		9.7.2	Play with the org-brain included in Doom Emacs	11			
		9.7.3	Play with Deft, is it useful?	11			
		9.7.4	TODO How does org-roam work?	12			
		9.7.5	TODO Can I use that org-better agenda side bar				
			thing? I liked that	12			
		9.7.6	TODO find a better agenda export	12			
		9.7.7	TODO Set up a Symlink so HTMl is always on localhost	12			
		9.7.8	TODO Is there a way to get a better to do list?	12			
		9.7.9	TODO Find some Org-mode themes	12			
		9.7.10	TODO Re-Evaluate Doom Emacs	13			
		9.7.11	TODO Look at hosting an Apache Server	13			
		9.7.12	TODO Live Preview	13			
		9.7.13	TODO Org-Roam	14			
		9.7.14	TODO Live Equation Preview	14			
		9.7.15	DONE Try org-sidebar	14			
		9.7.16	DONE Install Org Bullets 2	14			
		9.7.17	Set up Hyerbole buttons	14			

9.7.18 Set up org super agenda
9.7.19 Trim Agenda
9.7.20 Install Emacs From Source
9.7.21 Try Hydrogen
9.7.22 Set up an after save hook to auto pandoc to HTML . 15
9.7.23 Whats FTP and sftp and WebDAV
9.8 TODO Learn VNOTE
9.9 TODO Reading List
9.10 Todo Learn a little Common LISP
9.11 TODO Try Emacs Artist maybe
• Org Scratch Space
• MediaWiki
• Template
• Sitemap
•
2020 Autumn
• Thinking About Data ()
- Zoom Tutorial
- Zoom Lecture
• Visual Analytics ()
 Zoom Lectures and Tutorials
• Social Web Analytics ()
- Zoom Lectures
- Zoom Tutorial
• Analytics Programming
- Zoom Tutorial
• NMR
- Zoom Link
* Damping Work

2 NMR

- NMR.
 - Actual NMR
 - * Damping Work

2.1 **TODO** Install Matlab

Well worth Learning, download and install.

How does it compare to Julia/Mathematica for performance related to differential equations. It sounds like it performs possibly faster but that it is a less capable scripting language

2.2 TODO Email Stephen about NMR for Project

2.3 **TODO** Derive an Equation for Damping

The checklist for Radiation Damping is what needs to be done

2.4 DONE Zoom Gang

The ID is 328517988; This is a quote:

Due to the uncertainties caused by the COV19 pandemic, a routine research meeting has been scheduled at 11am on each Fri. You can join the meeting via https://uws.zoom.us/j/328517988.

2.4.1 TODO Learning Matlab

Well worth Learning, download and install.

How does it compare to Julia/Mathematica for performance related to differential equations.

2.5 Zoom Meeting

Zoom Meeting is scheduled for Monday at 10 AM

Gang Zheng has invited you to a scheduled Zoom meeting. Time: Mar 30, 2020 10:00 AM Canberra, Melbourne, Sydney

Personal Devices: JOIN remotely (with audio): https://uws.zoom.us/j/9667203769 (PC, Mac, iPad, iPhone, Android)

- 2.5.1 **DONE** Where is the damn script?
- 2.5.2 **DONE** Read the Printouts
- 2.5.3 **DONE** Create a Presentation
- 2.5.4 TODO find a better agenda export
- 2.5.5 Add the Other Notes into the Org File
- 2.6 TODO Email Stephen about NMR for Project
- 2.7 Current Work

2.7.1 **TODO** Overheads

- 1. Finding Material Ok so now I have a few html and md files, how do I actually search them?
 - Trying to search them through R Studio is next to hopeless
 - I can use fzf_rga search in ranger
 - I can use $=fzf_{rga}=_{search}$ in ranger
 - This isn't bad but I'd really like a live search preview set-up
 - Notable
 - So I know I switched to *Vnote*, but one of the problems is the searching:
 - * It's not a live search which makes refining search terms difficult
 - * I can't flick through searched items / notes with the keyboard, I have to individually click each item (and the preview takes a few seconds).
 - * I'll stick with VNote because it's more organised, but, what works really well is copying all the md files to /tmp/datasci/notes and then using C-S-x to set the *Notable* data directory to look there, then you can search for code as you like.

```
mkdir /tmp/DataSci
mkdir /tmp/DataSci/notes
ln -s ~/Notes/DataSci/ /tmp/DataSci/notes
```

- HTML
 - There must be a way to fuzzy ripgrep thHeadingrough HTML,
 I should look into that:

* yep I can use the following to return all search results with the term geom_bar:

```
cd ~/Notes/DataSci/
rg -t html geom_barHeading
sag -G html geom_bar
```

- There might also be a firefox plugin
 - * You can use nautilus to open all HTML files easily enough
 - * using % 03 in the URL bar will let you jump to a file with 03 in the name for example
 - · you can use the Search Multi Tabs extension, but, the searching is basically only one term
 - · Compare this with org-mode where helm-rifle will return searches below headlines, *Notable* where searches are fuzzy per document or VNote where they are also fuzzy per document, you're better off using one of those.
 - · You might be able to work with html files inside vnote actually.

3 Startup

3.1 Startup Programs

1. Execute the following:

```
vmtouch -vt ~/Notes/Org/
vmtouch -vt ~/.emacs.d/
```

2. Load all agenda Files

```
(open-all-org-agenda-files)
```

3. Copy the Data Science stuff to /tmp so I can search it in notable

```
ln -s ~/Notes/DataSci/ /tmp/notes
```

1.

nil

3.2 Preliminary

you might want this one

!!! Important In order to save on export just use a vim-macro @s is save and git export, this is way easier

Then you can just use F4 to execute the last macro over and over. so do <Esc> q s SPC f s SPC m e h h Enter then use F4 to save just append a 0 to the name of the default CSS !!!

TODO Write up notes on good coding style here
The Markdown Wiki

- Searching
 - Through Notes

SEARCH \sim /Notes emacs vim Bash Filename Not that I'm aware of :FZF <CR> \sim /Notes cd \sim / File Contents (by Line ONLY!) Spc a o /; (occur-in-agenda-files) :Rg cd \sim /

- You Could also use Spc a o m to get tags
- Across Drive:

• If you know exactly where the file is you could also use helm-find-files; SPC f f

To search only agenda files use SPC a o / To search all files use helm-ag or use vim C-p, vim :rg To search all file names use helm-locate which is SPC f L or use fzf

¹find ~/Notes -name KEYWORD

4 Data Science Notes

4.1 Introduction to data science

IntroDataSci

4.1.1 Supervised Learning

- 1. Regression
 - (02/03) Simple and Multiple Linear Regression
- 2. Classification
- 3. Re-sampling Methods

4.1.2 Unsupervised Learning

- 1. Principal Component Analysis (PCA)
- 2. Clustering

4.2 Data Visualisation

Using Data Visualization with ggplot2 (Part 2)

4.3 Predictive Modelling

- All the PDF Notes
 - RelativeLink

5 Mathematics

5.1 Abstract Algebra

Abstract Algebra

5.2 Calculus ATTACH

5.2.1 preliminary

• Fundamental Theorem of Calculus

5.2.2 PDF Notes

ATTACH

- Math Modelling Notes
 - LATEX Source
- Calculus Rules

5.2.3 Analysis

- 1. Notes All the notes I took in class are: Tex Source Files are Currently In This Directory
 - 1. Sets
 - 1. Sets

•

- 2. Sequences
 - 1. Sequences (Cauchy Criterion)
- 3. Series
 - 1. Series (Old)
 - 2. Series (Stewart Calculus Excerpt)
- 4. Limits
 - 4. Limits
- 5. Continuity
- 6. Stu-vac
- 7. Complex Values
- 8. Complex Variables
- 9. Elementary Functions
- 10. Complex Integrals

- 11. Power Series (MD)
 - 1. Power Series Excerpt
- 2. Working The working is all handwritten so I couldn't attach it, there linked here in Dropbox.
- 3. TextBooks The textbooks can be found here in Dropbox Textbooks

6 Statistics

ATTACH

6.1 Time Series Analysis

- Time Series Analysis
 - Original PDF
 - * Word Document
 - * (02) Confidence and Prediction Intervals TimeSeries
 - · LATEX Source

6.2 **DONE** add the Statistics Word Doc, PDF and Org Conversion

- Stats Export
 - Original PDF
 - * Link to Location
- Simple Linear Regression
- + Biometry Formula Sheet

7 Note Taking Manual

• NoteTaking

- 7.1 The manual for my strategy
- 8 Journal
- 9 Current Interests

Evening

- 9.1 Learn Programmin Languages
- 9.1.1 TODO Learn Python

Finish This Work Math Adventures with Python

9.1.2 TODO Learn Bash

- Finish Bash Book
 - Also Checkout Wicked Cool Shell Scripts
- 9.1.3 TODO Learn Julia
- 9.1.4 TODO Learn Rust

Rust is faster than go so I like it, what I should try and do is take a couple bash scripts that I'm using and rewrite them in rust for a bit of a challenge, plus, having compiled code will be really nice, If you want to write a Rust program do this.

1. Write a Script main.rs:

```
fn main() {
    println!("This is my Text");
}
```

2. Compile the Script

```
rustc main.rs
```

3. There is no step 3, just run the script with ./main Putting that all together:

```
mkdir /tmp/rust
code='
    fn main() {
```

```
println!("This is my emacs Text");
}
'echo $code > /tmp/rust/main.rs
rustc /tmp/rust/main.rs
/tmp/rust/main
```

9.1.5 **TODO** Learn to configure *Atom* so maybe JavaScript?

9.2 **TODO** Configure remote ssh

9.2.1 **TODO** Set up fingerprint

I will need to have a longer password so try and fix the fingerprint scanner as described here

9.3 TODO Learn Maxima Symbolic Algebra

9.4 **TODO** Learn TeXMacs

9.4.1 DONE Investigate Snippets

Could ted Mac be better than using vimtex or markdown preview for writing math?

Can I copy the latter out easily?

9.4.2 Graphics

- 1. **TODO** Any reason to use over inkscape or Tikz
- 2. **TODO** Can I import Tikz?

9.4.3 Investigate Snippets

Could ted Mac be better than using vimtex or markdown preview for writing math?

Can I copy the latter out easily?

9.5 **TODO** Finish Data Camp

Data Camp

- Finish Data Viz
- Finish Social Web Data

9.6 Start a Kaggle Problem

• Model some Data Set

9.7 **TODO** Dial in org-mode

- How do I use Capture Templates
- Play with org-beautify-theme a little more and add to config
- How do I manage all the files in my agenda / al the files in my Org directory?
 - Like there will eventually be a lot of files, does it matter if I can rifle ugh them?
- Set up a Hyperbole Home Page
 - I want buttons to open things as I mentioned here, the manual seems to cover it <(echo hello)>
- Try Deft, how to incorporate it?
- Try Org-Brain, How to incorporate it?
- How is atom written?
 - Could I write plug ins to extend it to pair well with emacs?
 - * Starty with this one
 - Hydrogen is really interesting, see my set up notes
- 9.7.1 Try configuring setq mouse-wheel speed
- 9.7.2 Play with the org-brain included in Doom Emacs
- 9.7.3 Play with Deft, is it useful?
 - 1. **TODO** Where should the Deft folder be?
 - 2. **TODO** Should deft and org-brain be separate directories?

- 9.7.4 **TODO** How does org-roam work?
- 9.7.5 TODO Can I use that org-better agenda side bar thing? I liked that.
- 9.7.6 TODO find a better agenda export
- 9.7.7 TODO Set up a Symlink so HTMl is always on localhost

If you look at this this link regarding mediaWiki it can be seen that any files in /Var/WWW will accessible through localost because they will be served by Apache2

9.7.8 **TODO** Is there a way to get a better to do list?

Like by which I mean when I hit C-c a t the list I get is awfully unorganised, Can I get something that's nested or am I better off using the agenda or what?

Or maybe I'm supposed to use sparse trees?

- 1. **TODO** Live Preview Get a live preview of org-mode documents using Emacs application framework
- 2. **TODO** Org-Roam So I couldn't really figure out org-brain, it was cute but too complicated and didn't bring a lot more to the table than org-wiki and simply creating links, what does org-roam bring to the table?
- 3. **TODO** Live Equation Preview I used something like this?
- 4. **DONE** Try org-sidebar https://github.com/alphapapa/org-sidebar/blob/master/README.org
- 5. **DONE** Install Org Bullets 2
 - This can be installed from here
 - The package is called org-superstar, I added it to dotspacemacs
 - The Mode is called org-superstar-mode, I added it to init file

9.7.9 TODO Find some Org-mode themes

I would like a dark-mode version of leuven.

9.7.10 **TODO** Re-Evaluate Doom Emacs

Why:

- Spacemacs has occassional slowdowns that are unacceptable
 - Doom was generally faster even though I hated Ivy
 - * Really though I'd rather use FZF and Rifle though so whatever
- poly-markdown-mode seems to crash or stop recognising code blocks sometimes and I'm not if a more stable config could explain that
- I am unable to easily configure key bindings and I want to start to learn LISP so I can make this into the note taking and programming and mathematics tool I deserve!

9.7.11 TODO Look at hosting an Apache Server

So I want to be able to have either a server or a VPN so I can go through my HTML org files from my phone/ipad, i'd also like to be able to just have a persistent mkdocs server for Vnote as well.

- VPN is nice because it is secure from other people
 - But to use it ALL traffic on phone would go through server
- Hosting a server that requires a password is another option

The idea being is that I love being able to see what's on my PC from my ipad using a python server at home without having to push to GitHub and I'd love to be able to do that indefinitely.

- How do I manage all the files in my agenda / al the files in my Org directory?
 - Like there will eventually be a lot of files, does it matter if I can rifle ugh them?

9.7.12 TODO Live Preview

Get a live preview of org-mode documents using Emacs application framework

9.7.13 TODO Org-Roam

So I couldn't really figure out org-brain, it was cute but too complicated and didn't bring a lot more to the table than org-wiki and simply creating links, what does org-roam bring to the table?

9.7.14 **TODO** Live Equation Preview

I used something like this?

9.7.15 **DONE** Try org-sidebar

https://github.com/alphapapa/org-sidebar/blob/master/README.org

9.7.16 DONE Install Org Bullets 2

- This can be installed from here
- The package is called org-superstar, I added it to dotspacemacs
- The Mode is called org-superstar-mode, I added it to init file

9.7.17 Set up Hyerbole buttons

Just play with setting up buttons for different tasks, could I have it open things? Like say I sympy?

9.7.18 Set up org super agenda

See this post

Also set up org-atom

9.7.19 Trim Agenda

If rifle operates on the org folder not the agenda then I really only need maybe 3 files in the agenda, todo, inbox and a couple of others, I can just use org capture to stay organised.

Like If I have due dates there's probably away to copy that into my todo template, this might be what org-refile does.

9.7.20 Install Emacs From Source

Apparently it will run faster.

9.7.21 Try Hydrogen

https://atom.io/packages/Hydrogen

Is there a way to make that integrate with org mode or markdown or RMD or VNOTE?

- 1. Read the manual for Atom Texr editor https://flight-manual.atom.io/ It has information on plugins and stuff, I'd loooooove to be able to fold org files and preview latex in place for latex as well.
 - (a) Write a simple plugin for it to evaluate the extensibility of it.

9.7.22 Set up an after save hook to auto pandoc to HTML

9.7.23 Whats FTP and sftp and WebDAV

could o use one of those to export from iPhone or whatever?

Is there an app like Koder that will work for org mode files as well as markdown?

Re

9.8 TODO Learn VNOTE

• Just Investigate the C-g Bindings etc.

9.9 **TODO** Reading List

- Org-Mode Manual
- ESS manual
- Emacs Book
- Bash Book

9.10 Todo Learn a little Common LISP

Just work through this link here

• A big list of resources is here

9.11 **TODO** Try Emacs Artist maybe