

# OPEN SOURCE WORK AS A PHD STUDENT

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2022-08-05

# WHY THIS TOPIC?

- WE ALL USE OS SOFTWARE, DAILY
- SCIENCE DEPENDS ON IT!
- DO YOU USE IT'S FULL POTENTIAL?

# OUTLINE

- 1) MY HISTORY IN OS
- 2) WHAT CAN OS DO FOR YOU?
- 3) HOW TO GET STARTED

N.B.

I'M NOT TALKING ABOUT CREATING AND  
MANAGING YOUR OWN PROJECTS SO MUCH -  
RATHER, THIS TALK IS ABOUT BEING PART  
OF AN OPEN-SOURCE COMMUNITY!

①

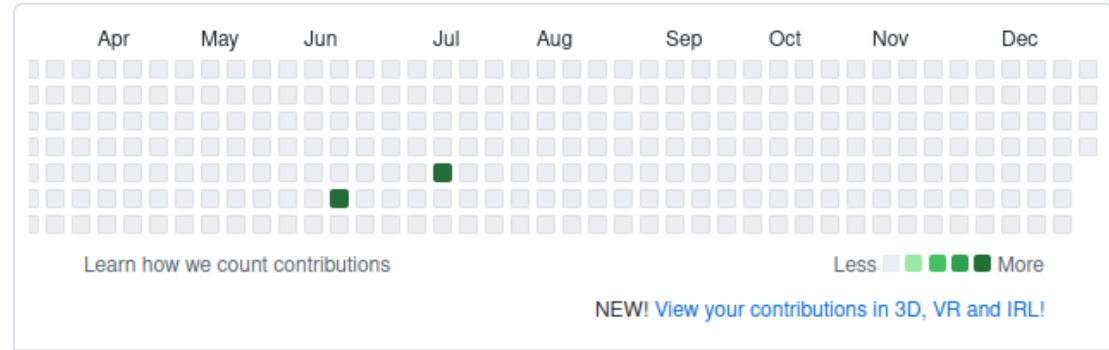
A TYPICAL HISTORY?

# STARTING SMALL

2014 →

2 contributions in 2014

Contribution settings ▼



247 contributions in 2021

Contribution settings ▼



← 2021

# DARING TO RAISE ISSUES

WAS INVITED AS MAINTAINER

## ✓ ahwillia/Einsum.jl Clarification about einsimd

#27 by [phipsgabler](#) was closed on Apr 29, 2018

3

## ✓ ahwillia/Einsum.jl Return value of assigned result

#22 by [phipsgabler](#) was closed on Apr 22, 2018

2

## ✓ docker/docker.github.io

Top of page becomes white with certain screen sizes in portrait orientation

#2692 by [phipsgabler](#) was closed on Aug 30, 2017

area/Docs UX

3

## ✓ codemirror/codemirror5

Julia: confusion when Julia code is used in a non-standard string literal

#4682 by [phipsgabler](#) was closed on Apr 11, 2017

3

## ✓ codemirror/codemirror5 Julia: end of command literals not recognized

#4381 by [phipsgabler](#) was closed on Nov 13, 2016


2

## ✓ ggobi/ggally ggmatrix is doing strange things to axes when using the legends option

#135 by [phipsgabler](#) was closed on Oct 18, 2016

9

# SMALL - PROJECT COLLABORATION

 **phipsgabler / trello2md** Public

Convert Trello's JSON exports to  
Markdown.

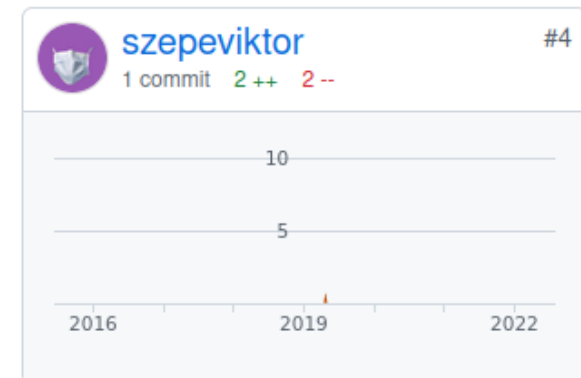
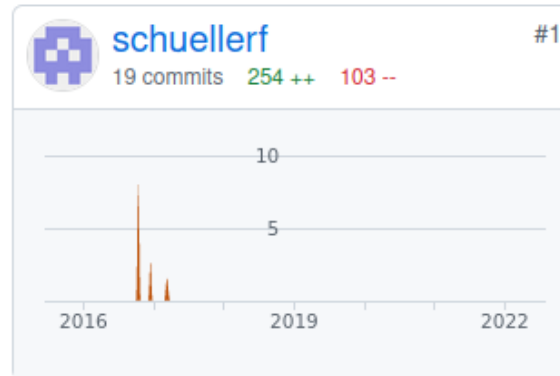
[markdown](#) [trello](#) [pandoc](#)

 Unlicense license

 18 stars

 3 watching

 7 forks






# UNTIL MSC THESIS





FOR MSC THESIS

SOME PERSONAL  
PROJECTS




<p> <b>TuringLang/IRTracker.jl</b> <span>Public</span></p> <p>Dynamically track IR as a graph, using source transformations</p> <p> Julia  31  5</p>	<p> <b>trello2md</b> <span>Public</span></p> <p>Convert Trello's JSON exports to Markdown.</p> <p> Python  18  7</p>	
<p> <b>guitarsongbook</b> <span>Public</span></p> <p>A document class wrapping the songs package</p> <p> TeX  2</p>	<p> <b>mini-lambda</b> <span>Public</span></p> <p>A small normalizer for lambda calculus, implementing (almost) everything from scratch</p> <p> Haskell  1</p>	
<p> <b>dotfiles</b> <span>Public</span></p> <p>Some of my configuration files</p> <p> Emacs Lisp  1</p>	<p> <b>master-thesis</b> <span>Public</span></p> <p>This thesis presents a novel approach for the implementation of a tracking system to facilitate program analysis, based on program transformations. The approach is then applied to a specific problem...</p> <p> TeX</p>	




# AFTER MSc THESIS



 **TuringLang** / **AbstractPPL.jl** Public









  Unwatch  Fork  Starred 20



[Code](#) [Issues 12](#) [Pull requests 4](#) [Discussions](#) [Actions](#) [Settings](#) [Releases 10](#)

 main  8 branches  10 tags


**github-actions[bot]** CompatHelper...  5beb40f on Jun 19  131 commits


 .github/workflows	Remaking Model constructor to turn values in...	5 months ago
 src	Implementing evaluation interface ( <a href="#">#63</a> )	2 months ago
 test	CompatHelper: add new compat entry for Dis...	last month
 .gitignore	DAG Model interface ( <a href="#">#47</a> )	6 months ago
 LICENSE	Initial commit	2 years ago
 Project.toml	Implementing evaluation interface ( <a href="#">#63</a> )	2 months ago
 README.md	Move interface descriptions to readme	8 months ago
 bors.toml	Setup <a href="#">bors</a> ( <a href="#">#42</a> )	6 months ago


 **README.md** 


Common types and interfaces for probabilistic programming


[probabilistic-programming](#) [ppls](#)

 MIT license


 20 stars


 10 watching

 5 forks

 **v0.5.2** [Latest](#)  
on Mar 8

**Contributors** 6



 **Julia** 100.0%

# PROJECT WORK IN TURING

Directed-graphical model support for the abstract probabilistic programming library

**Mentors:** Philipp Gabler, Hong Ge

**Project difficulty:** Hard

**Project length:** 350 hrs

**Description:** We want to have a very light-weight representation of probabilistic models of static graphs (similar to BUGS), which can serve as a representation target of other front-end DSLs or be

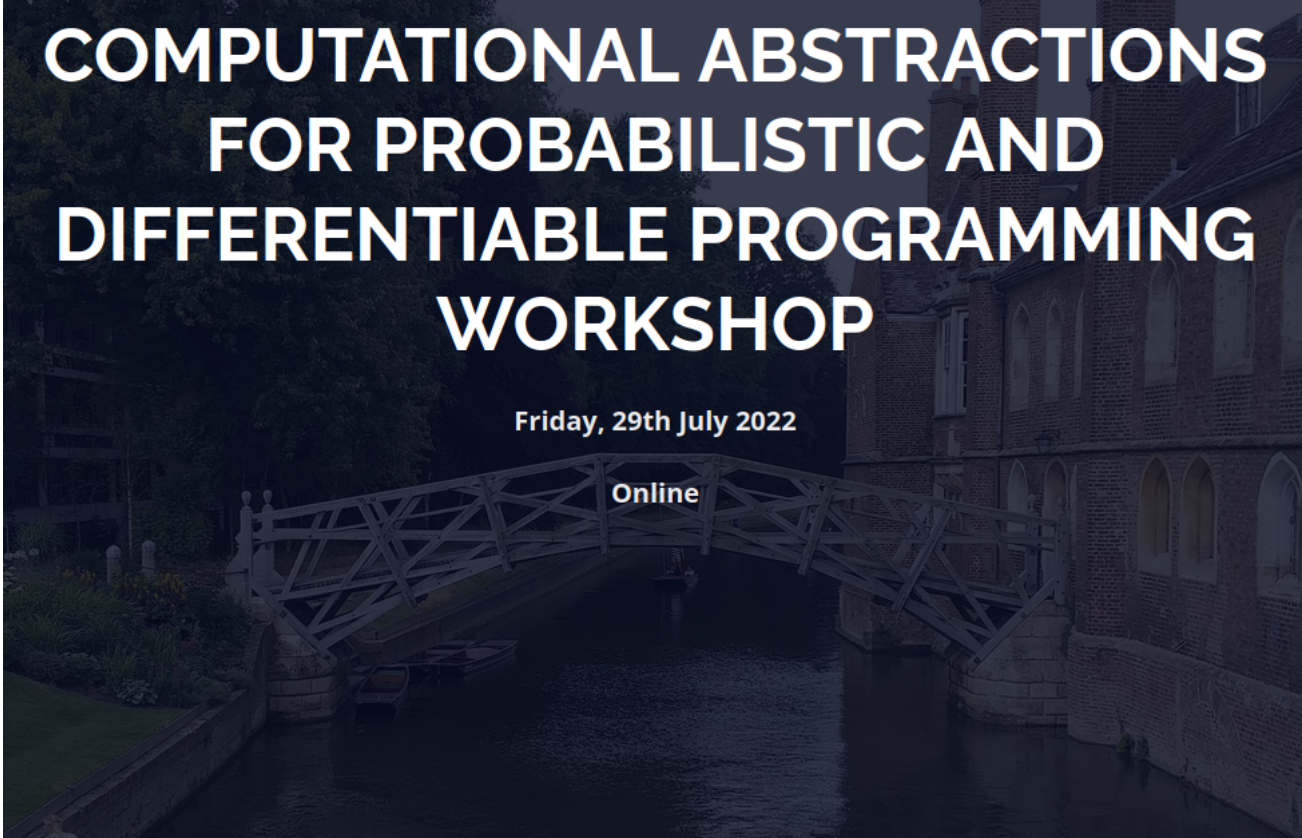
...

# FRUITS OF LABOUR

## COMPUTATIONAL ABSTRACTIONS FOR PROBABILISTIC AND DIFFERENTIABLE PROGRAMMING WORKSHOP

Friday, 29th July 2022

Online

The background of the workshop title card is a dark, atmospheric photograph. It shows a wooden bridge with a complex lattice structure spanning a narrow river. On the right side of the river, there is a multi-story brick building with arched windows. The scene is dimly lit, with some light reflecting off the water and the bridge's structure.

②

LESSONS LEARNT

# TECHNICAL PROFITS

- (FORCED TO) LEARN SOFTWARE DEV HABITS
  - ↳ GIT, CI, TESTING, ...
- PROJECT MANAGEMENT WORKFLOW
- REMOTE COLLABORATION

# WORK BENEFITS

- CONTACT WITH DEVS RELEVANT TO YOUR WORK
- UNDERSTAND SOFTWARE & METHODS BETTER
- GET BUG FIXES QUICKLY
- POWER TO INFLUENCE & IMPROVE

# ACADEMIC OPPORTUNITIES

- REPRODUCIBILITY
- FREE & EXCELLENT SUPPORT
- REPUTATION
- NETWORKING:
  - ↳ POTENTIAL FOR COLLABORATION, SUPERVISION, INNOVATION
- JOY!



3

HOW TO GET STARTED

# FIRST STEPS

- GET AN ACCOUNT ON GITHUB, GITLAB, ...
- READ ISSUES OF PROJECTS YOU USE/LIKE
- GET FAMILIAR WITH DEVS & INTERNALS
  - ↳ FOLLOW ON SLACK, DISCORD, ...
  - ↳ ASK QUESTIONS, ADD TO DISCUSSIONS
- READ THE SOURCE OF "YOUR" PROJECT!

# MAKE ISSUES A HABIT



hipsgabler on 7 Jun 2020 • edited ▾



I don't even use JS, but stumbled onto your site by chance and find it rather nice.

Anyway, the second proposed snippet for shuffling,

```
const shuffle = arr => arr.sort(() => .5 - Math.random());
```

is exactly what one should *not* do for unbiased permutations, see [en.wikipedia.org/wiki/Fisher%E2%80%93Yates\\_shuffle#Sorting](https://en.wikipedia.org/wiki/Fisher%E2%80%93Yates_shuffle#Sorting).  
(The first should be fine, though.)



elkarouani mentioned this issue on 21 Dec 2021

**Fix shuffle an array method #492**

Merged



phuoc-ng closed this as completed in #492 on 22 Dec 2021

# ACCEPT REJECTIONS



**hipsgabler** on 16 Apr 2021



A truly awesome package, indeed!

Is there a quick way to show a closing button on each tab, like plain `tab-line`, to which `tab-line-close-tab-function` is bound?



**manateelazycat** on 7 Aug 2021

Owner




No, I don't want provide close button, sorry.



**manateelazycat** closed this as completed on 7 Aug 2021

# START SMALL

## Fix firstindex in replace\_ref\_begin\_end (fixes JuliaLang#41630)



 phipsgabler committed on 24 Jul 2021

1 parent

No Whitespace



Showing 2 changed files with 39 additions and 1 deletion.

✓ ↕ 2  base/views.jl 

↑  
.....

```
@@ -42,7 +42,7 @@ function replace_ref_begin_end!(ex, withex)
```

```
42 42 .....n = 1
```

```
43 43 .....J = lastindex(ex.args)
```

```
44 44 .....for j = 2:J
```

```
45 .....exj, used = replace_ref_begin_end!(ex.args[j], :($firstindex($S)), :($lastindex($S, $n)))
```

```
45 .....exj, used = replace_ref_begin_end!(ex.args[j], :($firstindex($S, $n)), :($lastindex($S, $n)))
```

```
46 46 .....used_S |= used
```

```
47 47 .....ex.args[j] = exj
```

```
48 48 .....if isa(exj, Expr) && exj.head === :...
```

.....  
↓