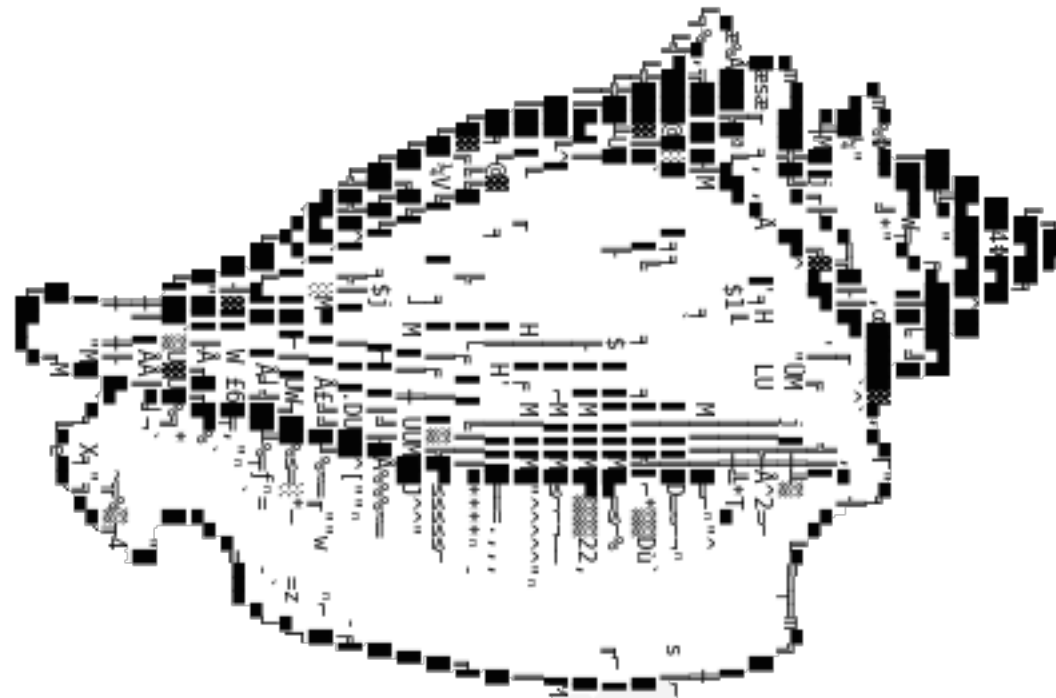


# Xonsh

Crustaceanly yours



[github.com/carreau/talks](https://github.com/carreau/talks)

<http://Xon.sh>

August 20, 2016

Matthias Bussonnier

Me



Carreau



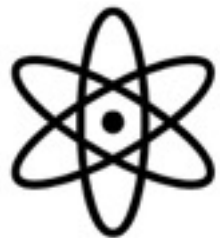
Mbussonn



(Terribheu Freignch Akheucnt)



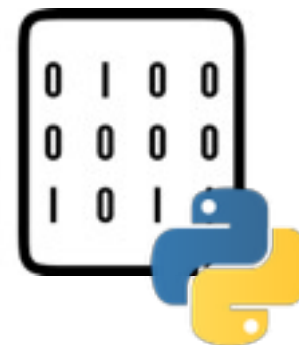
BussonnierMatthias@gmail.com



Physicist



Bipophysics



Software

# Main Projects

UC Berkeley BIDS





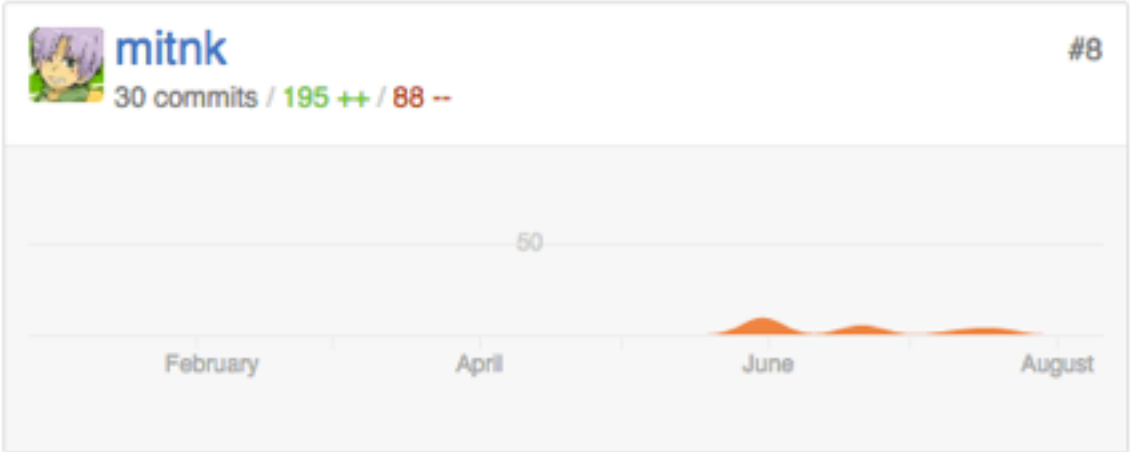
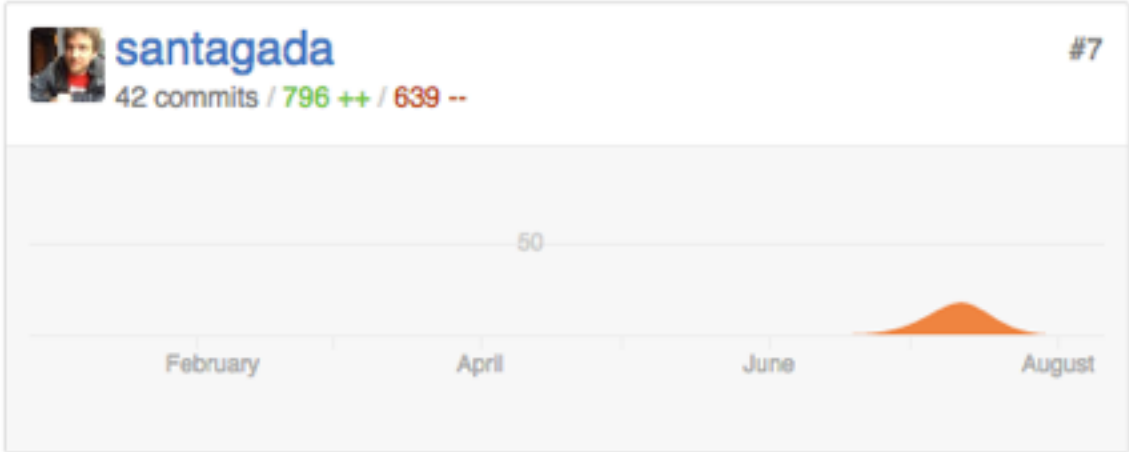
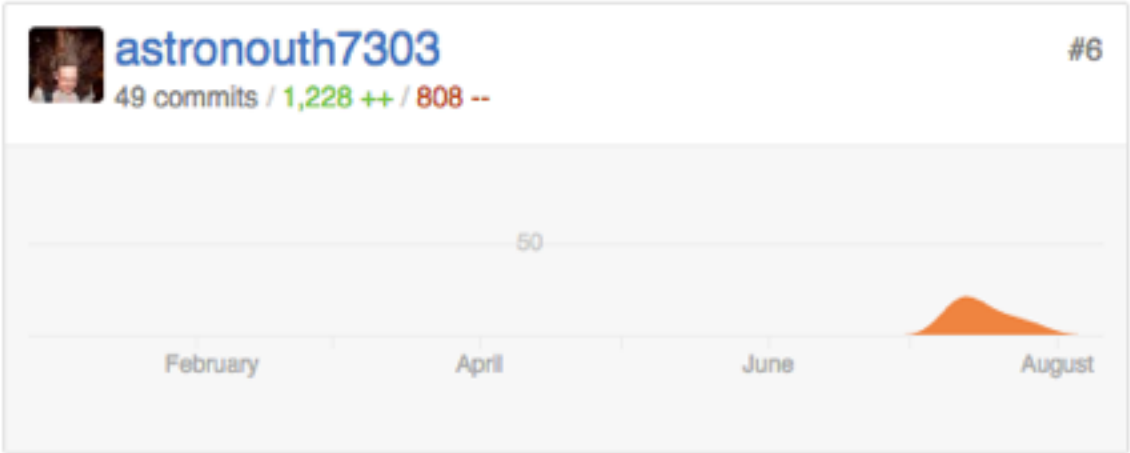
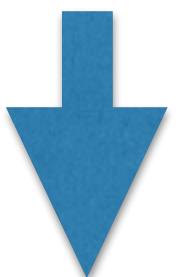
Xonsh is a Python-ish, BASHwards-looking shell language and command prompt. The language is a **superset of Python 3.4+** with additional shell primitives that you are used to from Bash and IPython.

By



**Anthony Scopatz**  
**@scopatz**

I'm far this way



<http://xon.sh>

\$ `pip install xonsh` # Py3.4+

\$ `conda config --add channels conda-forge`

\$ `conda install xonsh`

[github://xonsh/xonsh/](https://github.com/xonsh/xonsh/)

v0.4.5



# How do you pronounce it ?

- ★ The wrong way
- ★ Carefully
- ★ Differently each time
- ★ I only write it



I, will go with *Xonsh*. Where X it's not a X but a greek uppercase X\*, like in LaTeX. You are free<sub>[as in speech]</sub> to disagree.

It's extremely important for puns, we like puns, our Xontributor, or Xonfiguration system, and the Xonshtant questions from various Xorner of the Xontinent, and have a Xonshistant pronounshiation\*\*.

\*Your font may render X and X differently, or not.

\*\* Yesh autoxorrect, jheese are shpelled xorrectly.

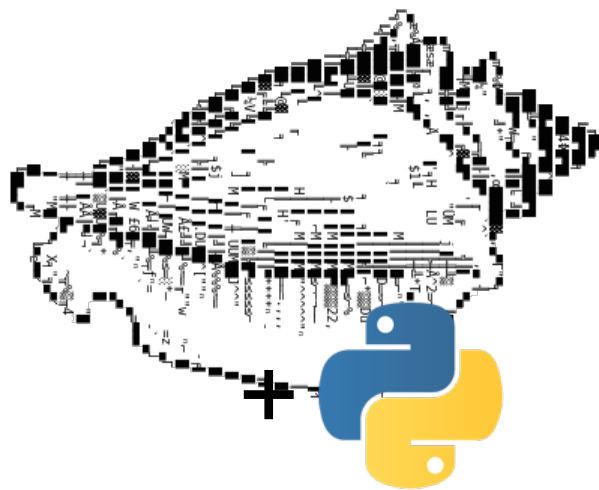
# Why ?

Because we can

Not to bash on other shell, but I can't remember 1/2 of the loop and conditions syntax.

Get the Python ecosystem at our finger tips.

Get the other 1/2 of the shell syntax in python.



Anthony Scopatz, PyCon 2016, Xonsh  
<https://www.youtube.com/watch?v=uaje5l22kgE>



Do everything you are always told **not to do**.

Reminder the next 2 talks are:

A Guide to **Bad Programming** – Paul Bailey

**Evil Hacks** in Service of **Marginally Improved Syntax**: "Compile-Time" Python  
Programming – Scott Sanderson

I think there is a theme here...



“Is that the shell that no-one uses ?”

- David Powell, @dontusethiscode – SciPy 2016

It is my everyday shell

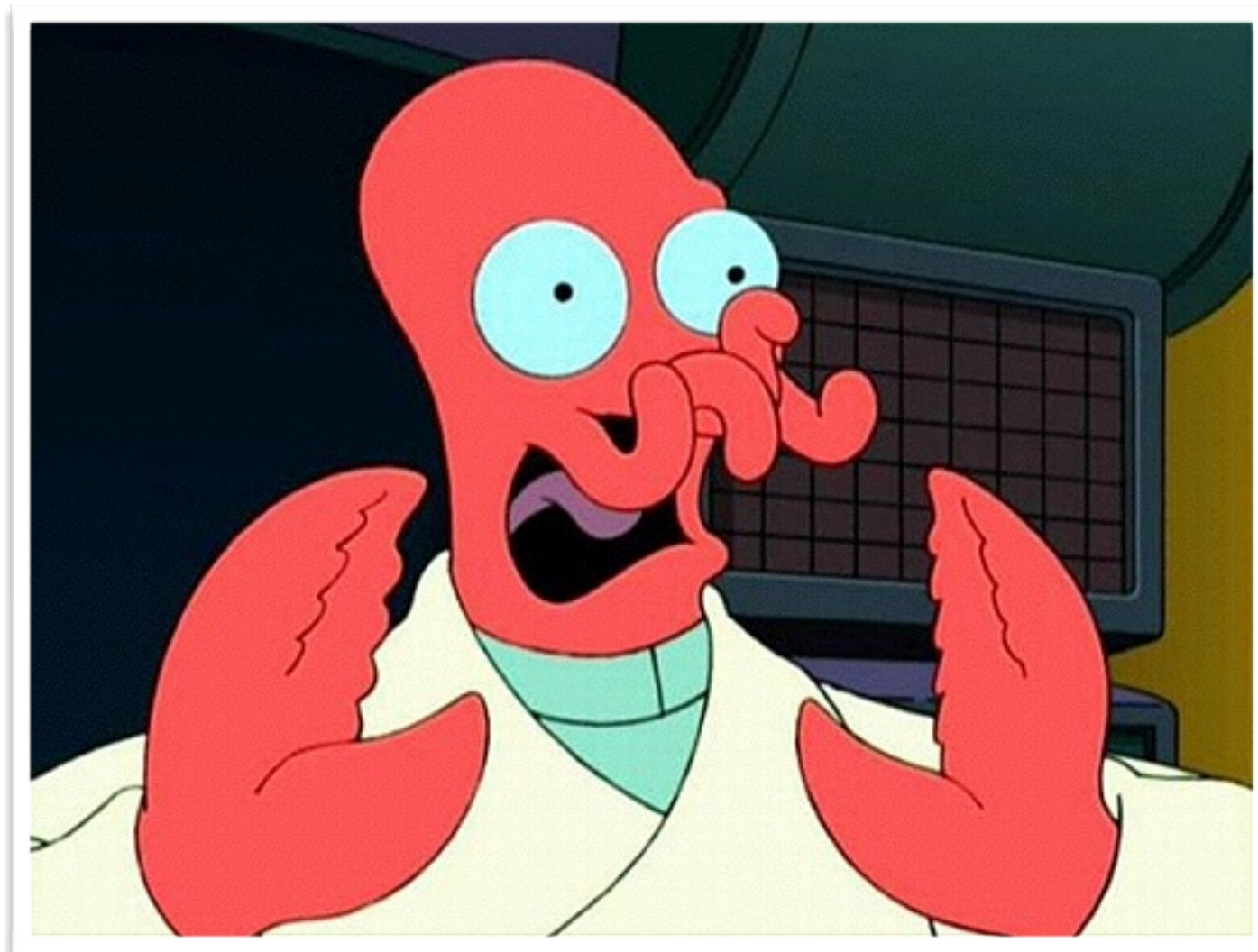


# Works out of the box

## aka batteries included

- No dependencies required.
  - Uses Ply to lex/parse; Python to compile/execute
  - Custom Tokenizer, and Ast Transform step.
- Better with a few optional ones
  - `prompt_toolkit`
  - `Pygments`...
- 21st century shell
  - Colors, Multiline edition, Autocompletion, Autosuggestion, introspection... inspired from OhMyZsh, Fish...

# The (risky) Demo



(Me right now in my head)

Please ask questions so that I can take breaks, and make sure I'm clear !

This demo may contain gotchas, references, easter eggs, bugs, and omissions;  
let's say it's to see if you are following.

# That was the tip of the iceberg

- Captured and uncaptured subprocess :
  - `$[]` and `![]`
  - `$()` and `!()`
- `help (object?)` and `super help (object??)` like IPython.
- Customizing Prompt with functions...
- Asynchronous prompt
- File formats (``.xsh``)
  - have an import hook.
  - Compile to python AST !

# Richer data structures

- Env variable are strings/lists/bool
- Rich history:
  - Sessions,
  - JSON
  - return status, timestamp

## Xontrib


- Xonsh Extensions
  - Package Manager (pip, conda)
  - Completions
  - Input editing...
  - Speed type for 30min...



# And More

(xontrib load distributed)

This Context manager



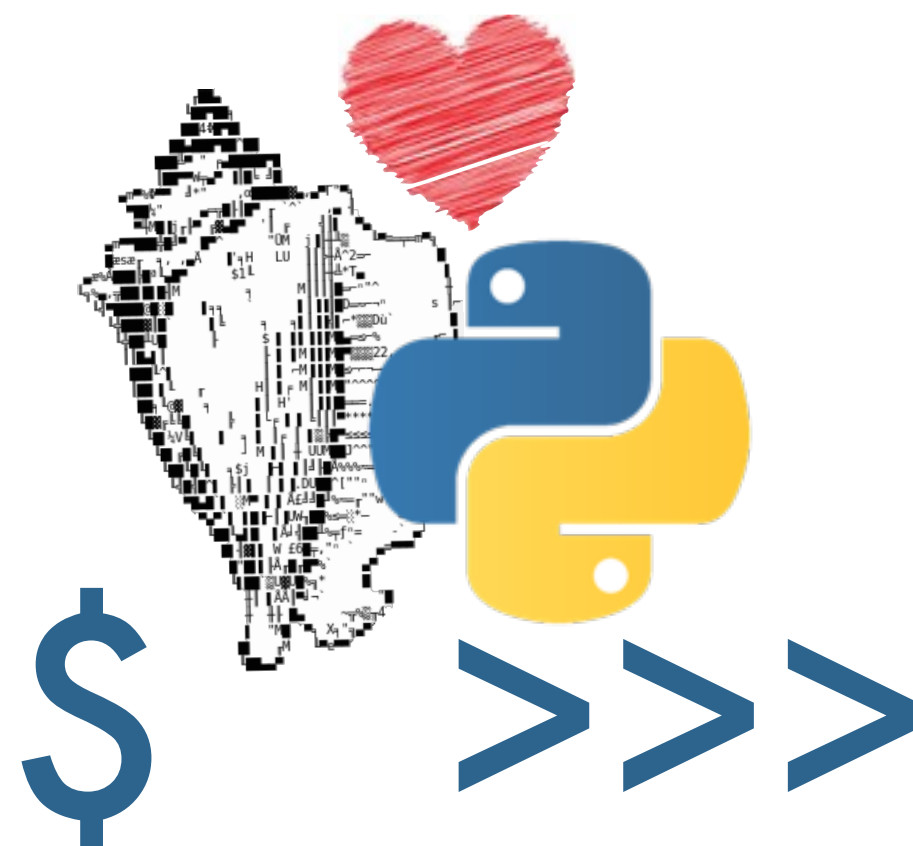
```
with dsubmit('127.0.0.1:8786', rtn='x') as dsub:  
    print('Yes this is a block')  
    x = $(echo I am elsewhere)
```

```
res = dsub.future.result()  
print(res)
```



Can get these as strings !

(anyone interested in having macro within the Python language?)

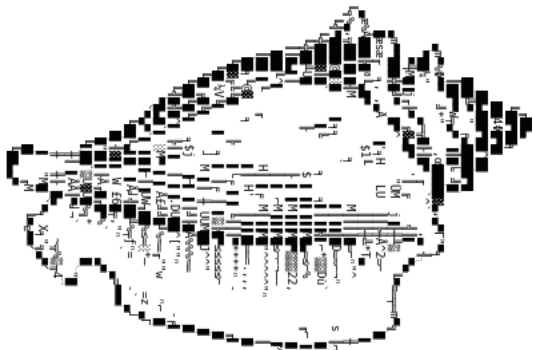


# Thanks

<http://xon.sh>

[github://xonsh/xonsh/](https://github.com/xonsh/xonsh/)

## Questions ?



PyBay