

My Setup for Productive Research

Workflow, Apps and Technology, Getting New Ideas

Sangmin S. Oh (Chicago Booth)

September 21, 2021

🔄 You Retweeted



César A. Hidalgo
@cesifoti



After advising PhD & Master students for over a decade, there is one thing I find most students need to unlearn: the half-ass work mentality acquired during years of tests and homework. Let me explain (thread 📖). 1/N #AcademicTwitter



César A. Hidalgo @cesifoti · Sep 12



Replying to @cesifoti

For most of their education students are evaluated using tests & homework. We are all familiar with the process. The student is asked to do some work; they turn it in, and get a grade (eg a B+,B, A, etc.) 2/N



2



63



829



Tip



César A. Hidalgo @cesifoti · Sep 12



But when they make it to grad school (or to their first job) it is quite different. Once they turn in work, they are not given a grade. They are given feedback and asked to do the work again. Sometimes several times. 3/N



8



125



1.3K



Tip



César A. Hidalgo @cesifoti · Sep 12



Many students struggle enormously with this change. They are not trained to do the same thing over and over until they get it right. They are trained to do better than average on their first try and to forget about what they did as soon as they turn their work in. 4/N



Workflow

git vs. Dropbox from a researcher's perspective

Trade Diversion

Commentary on development, globalization, and trade by Jonathan Dingel.

[HOME](#)

[ABOUT](#)

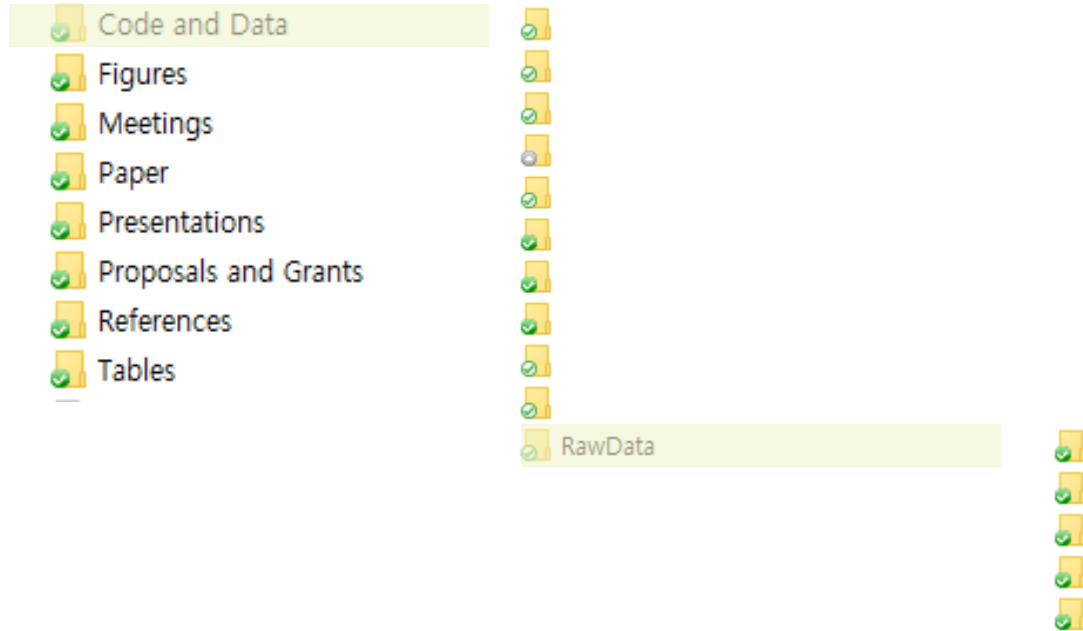
Why your research project needs build automation

Software [build tools](#) automate compiling source code into executable binaries. (For example, if you've installed Linux packages, you've likely used Make.)

Workflow

File Management


- I try to maintain the same file management system (at least for solo projects)




Workflow


File Management


- With a large Dropbox, I keep copies of the file after revisions


 univariate01.py


 univariate02.py


 Manuscript 20210216 01 SO.lyx


 Manuscript 20210311 01 SO.lyx


 Manuscript 20210312 01 SO.lyx


 Manuscript 20210314 01 SO.lyx


 Manuscript 20210314 01 SO.pdf


 Manuscript 20210315 01 SO.lyx


 Manuscript 20210315 01 SO.pdf


 Manuscript 20210315 02 SO.lyx

 Manuscript 20210315 02 SO.pdf

 Manuscript 20210316 01 SO.lyx

 Manuscript 20210316 01 SO.pdf

 Manuscript 20210321 01 SO.lyx

 Manuscript 20210321 01 SO.pdf

Apps and Technology

Apps and Technology

Coding

- Languages: Python + Stata
 - I had to read a lot of Matlab and R code, so don't limit yourself ex ante
- Editor: Visual Studio Code, Sublime Text

Version Control

- I make local copies of the code and documents I write, instead of using git
 - Difficult to convince co-authors to use version control!

Writing

- Lyx + Local Latex + Overleaf
 - Lyx is heavily underrated!

Flexibility is key!

Apps and Technology

Project Management

- Tool: Notion
- Each page corresponds to a project (potential paper) and allows you to nest information

 [Research Log](#)

Internal Notes

▼ [Media Articles](#)

▼ [Data](#)



 Add cover

Research Log

↗ 34 backlinks

[Research Question](#)

[Literature Review](#)

[Useful Commentaries](#)

[Useful Data](#)

[Background](#)

[Econometrics](#)

[Text Analysis](#)

[Institutional Background](#)








[Empirical Analysis](#)

Apps and Technology

Project Management

- Tool: Notion
- Each page corresponds to a project (potential paper) and allows you to nest information

Meetings

 Name	 Participants
 Meeting 2020-11-17 T	
 Meeting 2020-11-30 M	
 Meeting 2020-12-11 F	
 Meeting 2020-12-15 M	
 Meeting 2021-01-12 M	

Meeting 2020-12-11 F

 Participants

 Add a property

 Add a comment...

Apps and Technology

Reading Papers & Keeping Track

- Tool: Mendeley + Notion



Master ▾

Title	Citation	Topic	Journal
A Calculation of the Social Returns to Innovation	Jones and Summers (2020)	Productivity & Innovation Entrepreneurial Finance	Working Paper

Apps and Technology

Reading Papers & Keeping Track

- For each paper, I note: Motivation – Research Question – Methodology – Main Results
- You can embed a subset of the table into other pages

Motivation

- University quality is believed to be one of the key drivers for a successful professional career of university graduates.

Research Question

What is the effect of faculty quality on PhD student outcomes?

Methodology

1. Give a brief description of historical details
2. Describe the data sources in more detail
3. Outline the identification strategy
4. Analyze the effect of faculty quality on PhD student outcomes

Overview

Dismissal of mathematics professors in Nazi Germany as a source of exogenous variation in university quality

Identification

OLS framework:

$$\text{Outcome}_{idt} = \beta_1 + \beta_2(\text{Avg. Faculty Quality})_{dt-1}$$

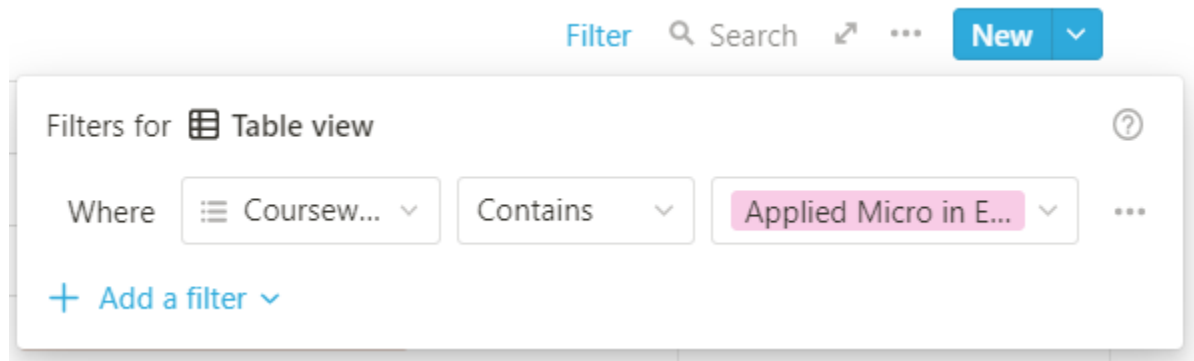
Main Results

1. I find that the dismissal of Jewish and politically unreliable professors had a very strong impact on university quality.
2. I find that increasing average faculty quality by one standard deviation increases the probability that a former PhD student publishes her dissertation by about 13 percentage points.
3. A one-standard-deviation increase in faculty quality increases the probability of becoming a full professor later in life by about 10 percentage points and lifetime citations by 6.3 (the average former PhD student has about 11 lifetime citations).

Apps and Technology

Reading Papers & Keeping Track

- For each paper, I note: Motivation – Research Question – Methodology – Main Results
- You can embed subset of the table into other pages



Apps and Technology

Scheduling and Time Tracking

- Daily time tracking: Toggl

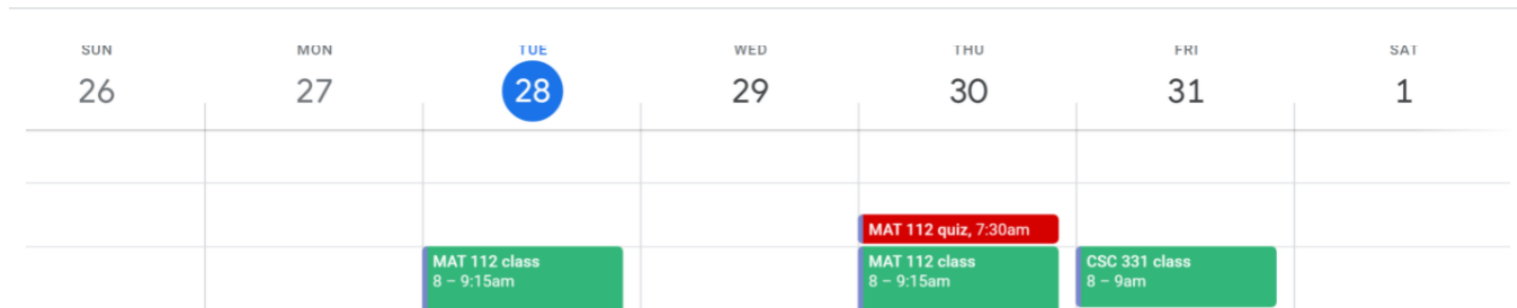
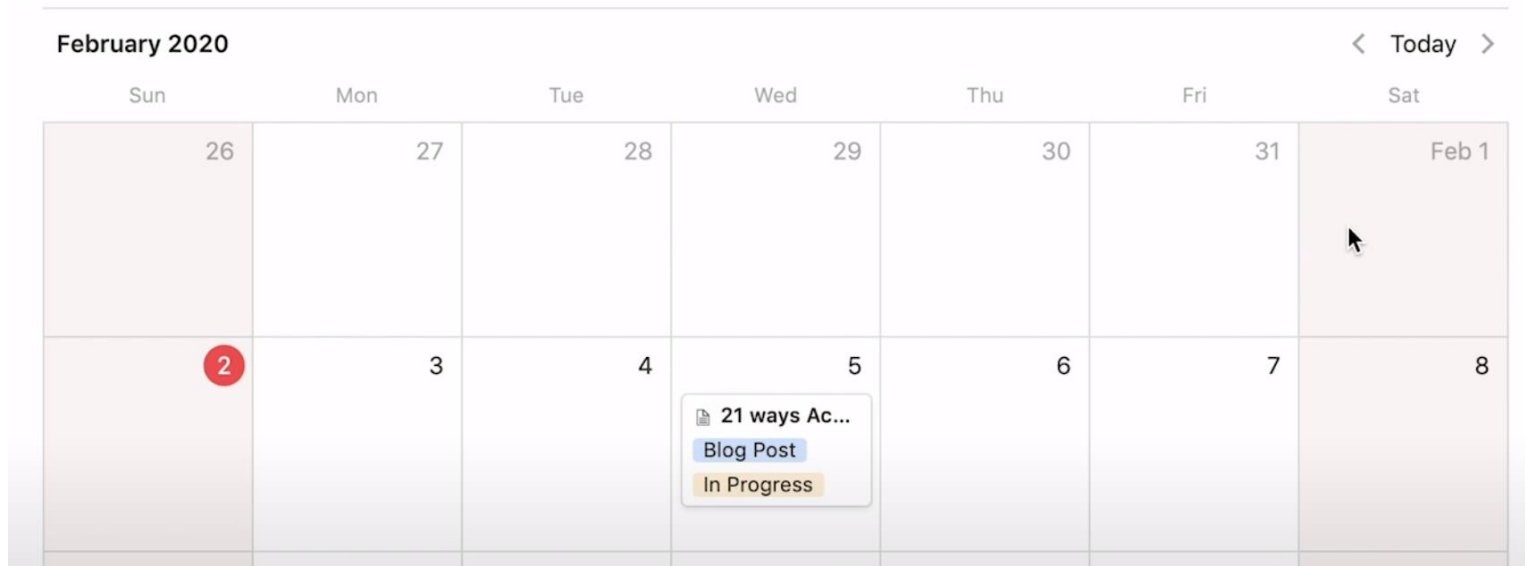
The screenshot shows the Toggl application interface. At the top, the window title is 'Other Stuff - Toggl...' with a gear icon for settings and standard window controls (minimize, maximize, close). Below the title, the project name 'Other Stuff' is displayed, along with a '+ Add project' link and a large red circular timer icon showing '19:25 min'. Two tabs are visible: 'List' (selected) and 'Timeline'. The 'List' view displays a table of time tracking data:

Day	Time Tracked
Today	0 h 49 min
Yesterday	6 h 55 min
Wed, 31 Mar	11 h 17 min
Tue, 30 Mar	7 h 39 min

Apps and Technology

Scheduling and Time Tracking

- Task-based Calendar: **Notion**
- Schedule-based Calendar: **Google Calendar**



Read up on what others have to say!

Sangmin S. Oh

PhD Candidate in Financial Economics at Chicago Booth

[Contact](#)

[CV](#)

[Research Papers](#)

[Notebook](#)

[Public Goods](#)

[Teaching](#)

[Resources](#)

Aggregators

- [General Resources](#) for Macroeconomics and Financial Economics
- [Brendan Price](#) with resources for PhD students
- [Pavel Solís](#) with a wide array of recommended resources
- [Shanjun Li](#) with resources for PhD students
- [Masayuki Kudamatsu](#) with tips for economists
- [Alex Albright](#) with resources focusing on R and data science
- [Awesome Economics](#) with a collection of links for economists
- [Christine Cai](#) with a collection of links

Mental Health

- [Noah Smith](#) with a few thoughts on depression
- [Scott Cunningham](#) on struggles of Econ PhD students

Evaluating Other Work

Discussions

- [Chris Blattman](#) on the art of discussing

Sample Discussions

Macro Finance

[Monika Piazzesi](#), [Daniel Greenwald](#), [Itamar Drechsler](#), [Urban Jermann](#), [John Cochrane](#), [Lawrence Schmidt](#), [Jonathan Parker](#), [Nicolas Cruzet](#), [Amir Kermani](#), [Annette Vissing-Jorgensen](#), [Hanno Lustig](#), [Gabriel Chodorow-Reich](#)

Financial Intermediation

[Juliane Begenau](#), [Konstantin Milbradt](#)

Household / Public Finance

[Amit Gupta](#), [Paul Wacziarg](#), [Christopher Palmer](#), [Anthony DeFusco](#), [Lorenz Kuiper](#), [Amir](#)

Questions?