"Education means making creators."

- Jean Piaget

Learning by doing

Hacking UN's IPCC's Climate report

Young students from Semantic*Climate

Shweata N. Hegde
3rd year Undergrad (Life Science and Education)

*Machine understandable

IPCC reports – most important document ever!
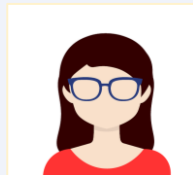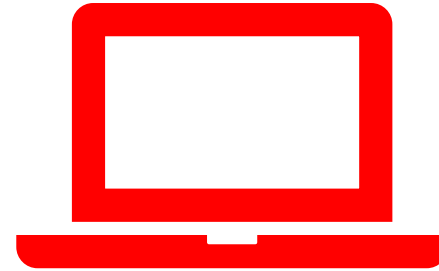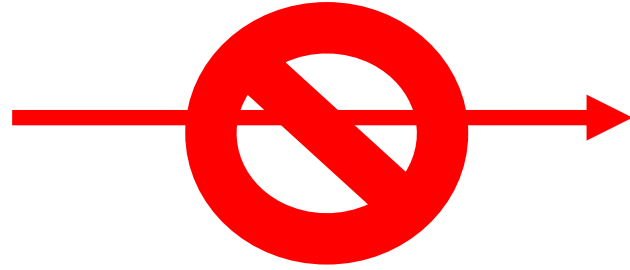
- 3000 pages;
- technical
- not editable

Machines can help, but…

Machines can help, but…
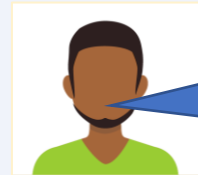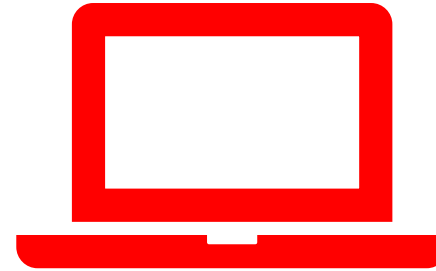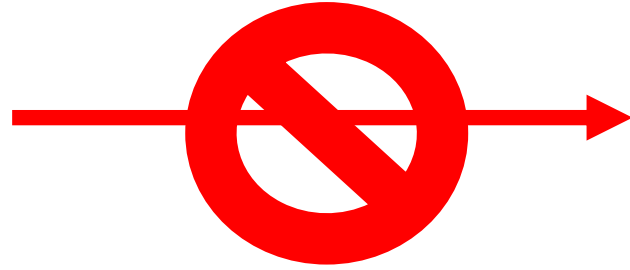
SemanticClimate's tools!
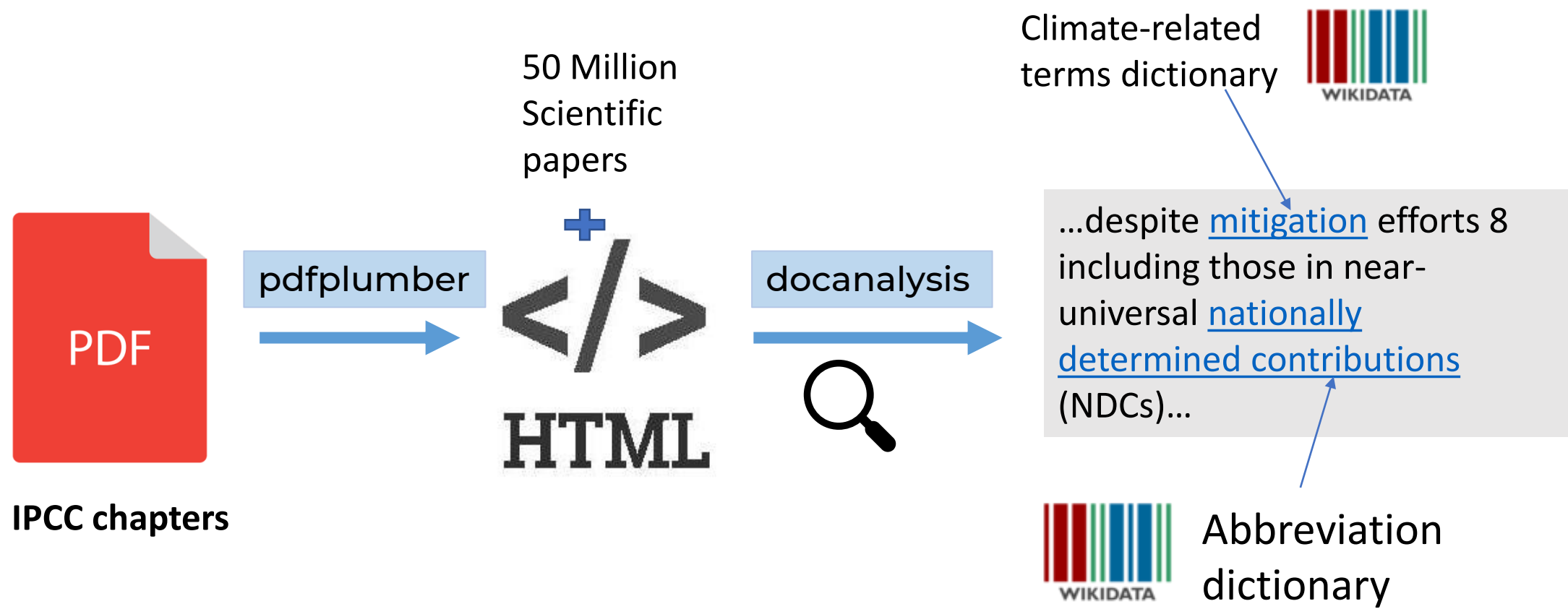
New science and tech!

PDF

IPCC chapters

pdfplumber

50 Million
Scientific
papers

HTML

docanalysis

Climate-related
terms dictionary

WIKIDATA

…despite mitigation efforts 8 including those in near-universal nationally determined contributions (NDCs)…

WIKIDATA

Abbreviation
dictionary

Now I can read the reports!

Rolling program of internships with NIPGR

We have learnt…

National Institute of Plant Genomic Research, New Delhi

University students working for 2-6 months in an external organization

Code! Use tech!

Python

WIKIDATA
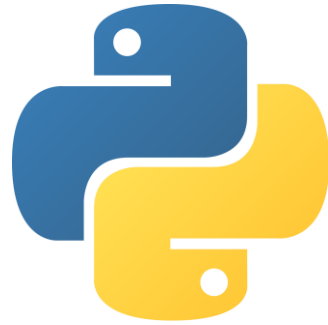
Collaborate... 🔓
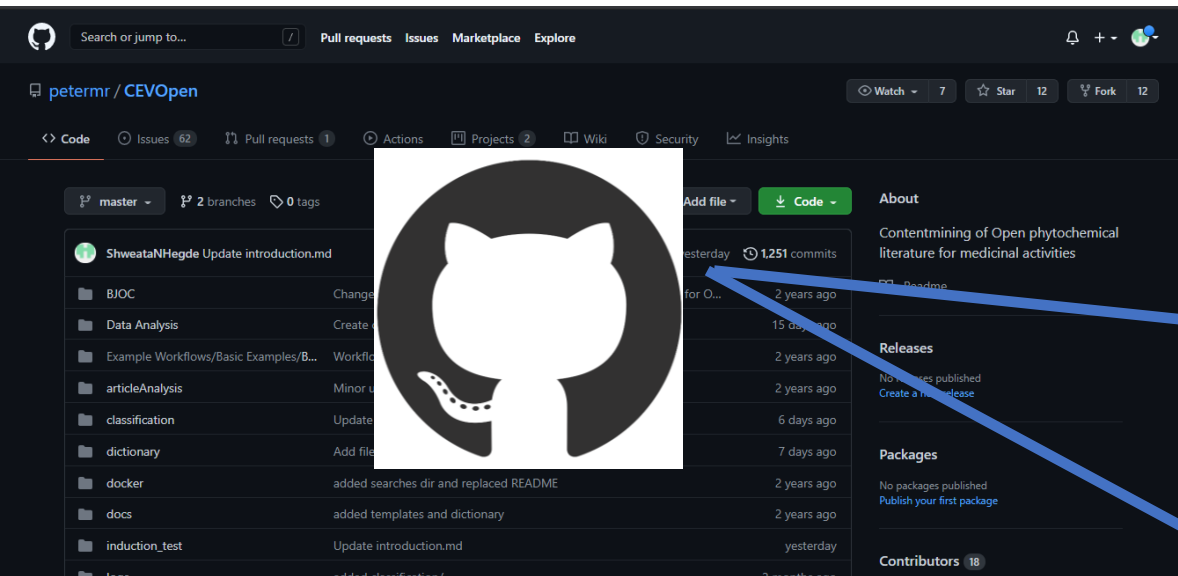
GitHub

Open Notebook Philosophy*

Everything on the web!

Updated 19-hours ago

real-time updates!

Try it!

https://github.com/petermr/CEVOpen
https://github.com/petermr/pygetpapers
https://github.com/petermr/pyami

*https://en.wikipedia.org/wiki/Open-notebook_science

Work as a community and be accountable

Not-started

In-progress

Completed

People

ISSUES	Ambreen	Vaishali	Priya	Rajan	Vanisha	Sana	Kareena	Charles
corpus (between 200-950)	Ready	Ready	Ready	Ready	Ready	Ready	Ready	Ready
dictionary	Ready	Ready	Ready	Ready	Ready	Ready	Ready	In progress
annotated (Pos/Neg) viral epidemics	8.90%	40/10					121/29	5/35
	Ready	Ready					Ready	Haven't Started
notebooks	Ready	In progress				Started	In progress	Haven't Started
machine learning / NLP	In progress	In progress	Haven't Started	In progress	In progress	In progress	In progress	In progress
display	In progress	Haven't Started	Haven't Started	Haven't Started	Haven't Started	Haven't Started	In progress	In progress
language variants	Ready	Haven't Started	Ready	Ready	Haven't Started	In progress	Haven't Started	Haven't Started
ami search	Ready	In progress	Ready	Ready	Ready	Ready	Ready	Haven't Started

Tasks

What I Did?
What I Plan to Do?
Blocks?

Daily Catch-up

Reach out to the world with our tech 🔓

cambiohack

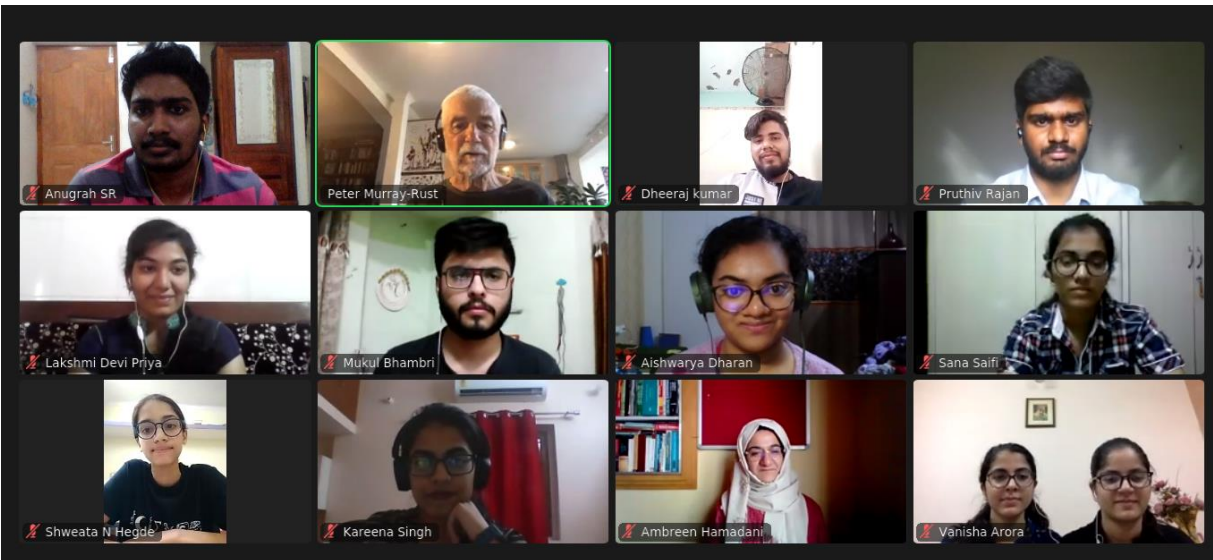We met Ayush, high schooler – author of pygetpapers -- at a Hackathon!

Maybe we'll meet our next Ayush today?

Join the diverse team!

What you might do…

- Pick a chapter from IPCC report and extract information using our tools!
- Select key words and search the scientific literature (EPMC)
- Build dictionaries using Wikidata

```xml
 <entry term="cone"
wikidataURL="http://www.wikidata.org/entit
y/Q22710" wikidataID="Q22710"
wikipediaPage="https://en.wikipedia.org/wi
ki/Conifer_cone">
    <synonym>Cone, Conifer cones,
Strobilus, pine cone, pine-cone, pinecone,
pine cones</synonym>
    <synonym xml:lang="zh">松球</synonym>
    <synonym
xml:lang="de">Koniferenzapfen</synonym>
    <synonym xml:lang="hi">कोणधारी
कोण</synonym>
    <synonym xml:lang="es">cono</synonym>
    <synonym xml:lang="fr">cône</synonym>
    <description xml:lang="fr">organe
reproducteur des conifères</description>
    <description xml:lang="es">estructura
vegetal</description>
  </entry>
```

WIKIDATA

Our Team

Dr. Peter Murray-Rust
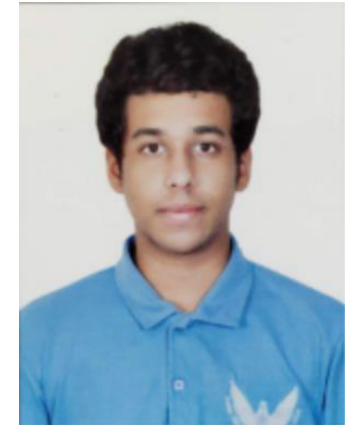Reader Emeritus in
Molecular Informatics
Univ. of Cambridge

Dr. Gitanjali Yadav
Group Leader, Computational Biology
Laboratory
National Institute of Plant Genome
Research

V.S.M.Roopa
BSc. Math,Stats,CS
St. Francis College,
Osmania Univ.

Enakshi Das
MSc. Bioinformatics
Pondicherry Univ.

Kaartik Issar
BSc. Computer Science
Univ. of Toronto

Samarth Bharadwaj
Electrical and Computer
Engineering
Northeastern Univ.

Slide Credit: V. S. M. Roopa

Ayush Garg
BS Computer Science
Univ. of Richmond

Dr Ambreen Hamadani
Lecturer,
SKUAST-Kashmir

Ananya Singha
Electrical Engineering and
Computer Science
IISER Bhopal

Shweata N. Hegde
B.Sc. B.Ed.
Regional Institute of
Education, Mysore

Emanuel Faria
Plant Medicine R&D,
Verriclear Natural Skin
Essentials

Anubhab Chakraborty
Electrical Engineering and
Computer Science
IISER Bhopal

Slide Credit: V. S. M. Roopa

Thanks to

More on:

https://github.com/petermr/petermr/discussions/37