Introduction to the IPUMS Microdata Extract API

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July 19, 2022
What is an API?

Application Programming Interface

using **code**

a way to interact
What is an API?

a way to **interact** using **code**
I NEED AN INTERFACE!
extract = CpsExtract(
    ["cps2018_03s", "cps2019_03s"],
    ["AGE", "SEX", "EMPSTAT"],
)

extract <- define_extract_cps(
    "Employment status 2018-2019",
    c("cps2018_03s", "cps2019_03s"),
    c("AGE", "SEX", "EMPSTAT")
)

ipums.download_extract(extract)

download_extract(extract)
What can you do with the API?

- Define and submit an extract
- Check extract status or “wait” for an extract to finish
- Download completed extracts
- Get info on past extracts
- Share extract definitions
What can’t you do with the API?

- Bypass the extract system
- Explore what data are available
- Use all features of the online extract system (not yet)
What collections work with the API?
Why should I use the API?

- Quickly add samples or variables to a previous extract
- Download extract files directly into your project
- Share extract definitions and enhance reproducibility
Hands-on with the API
Getting your API key

https://account.ipums.org/api_keys
Setting your API key

```r
library(ipumsr)
set_ipums_api_key("paste-your-api-key-here")
```

```python
from ipums import IpumsApiClient

ipums = IpumsApiClient(
   "paste-your-api-key-here"
)
```

- Setting environment variables in Python
  - Using `.env` files
  - Using `conda environments`
Using ipumsr to make an IPUMS extract

- ipumsr is an R package maintained by IPUMS for reading and manipulating IPUMS data and interacting with the IPUMS microdata extract API

- ipumsr resources
  - Library documentation
  - API tutorial
  - Code snippets on IPUMS developer portal
  - Reproducible research with ipumsr – blog post
Using IPUMSPY to make an IPUMS extract

- ipumspy is a Python library maintained by IPUMS for working with IPUMS data and interacting with the IPUMS microdata extract API

- ipumspy resources
  - Library documentation
  - Code snippets on IPUMS developer portal
  - Using ipumspy to share extract definitions – blog post
Using IPUMSPY to make an IPUMS extract in Stata

- Stata v 16+ supports using Python from within Stata

- Users can leverage ipumspy to make an extract from Stata

- Some one-time set up is required
  - [Making IPUMS Extracts from Stata](#) – blog post
Questions?