

Programming for Biomedical Informatics

Lecture 10 "Differential Gene Expression"

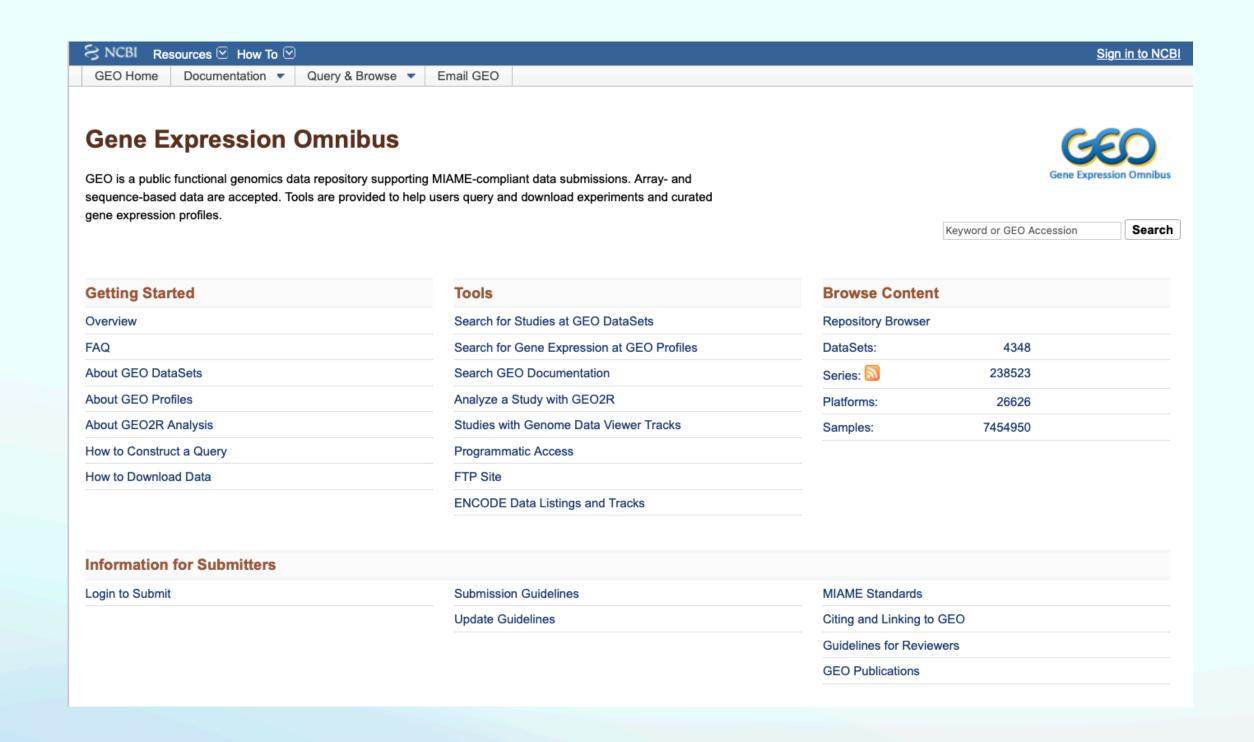
https://github.com/tisimpson/pbi

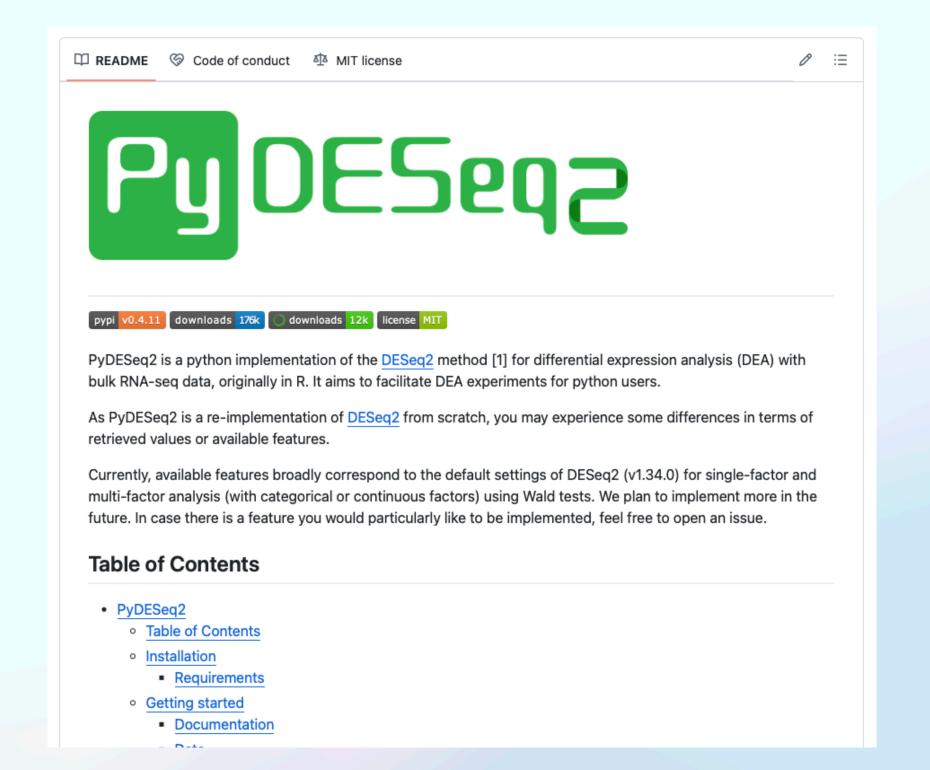
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Differential Gene Expression Analysis Using NCBI-GEO & PyDESeq2





https://www.ncbi.nlm.nih.gov/geo/

https://github.com/owkin/PyDESeq2

Retrieving Data from NCBI GEO

Programmatic Access to NCBI GEO

https://www.ncbi.nlm.nih.gov/geo/info/geo_paccess.html

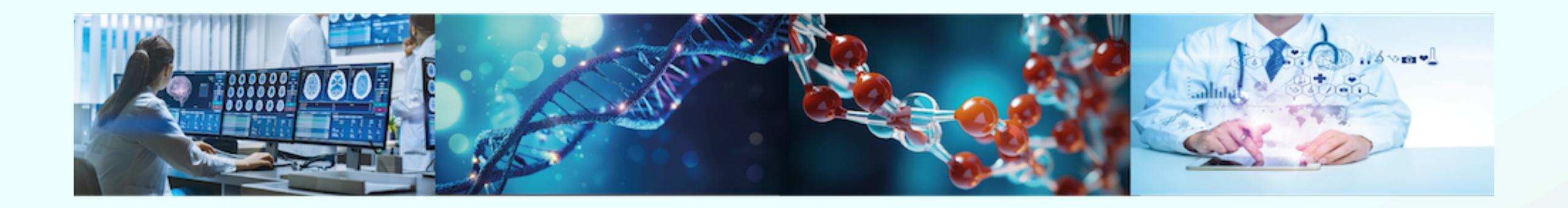
Download Options

https://www.ncbi.nlm.nih.gov/geo/info/download.html

Workflow

- Use the qualifier fields in Entrez GEO DataSets to fine-tune a search
- Construct the appropriate eSearch query in your script/program
- Run the query, retrieve the results in the form of UIDs or history parameters (query_key and WebEnv) as needed
- Run eSummary or eFetch and/or eLink depending on your needs to retrieve the final metadata or accessions.
- If you need to download full records or supplementary files, use the accession information to construct an FTP URL and download the data.





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Next Lecture - Tuesday 29th October "Biological Networks"

Ask Questions on the EdStem Discussion Board

