Software Tools for Earth and Environmental Science

Week1 - Introduction

- **Syllabus**
- **Book**
- **Data**
- **Code**
- **New Accounts**

Course

- Syllabus
- Book

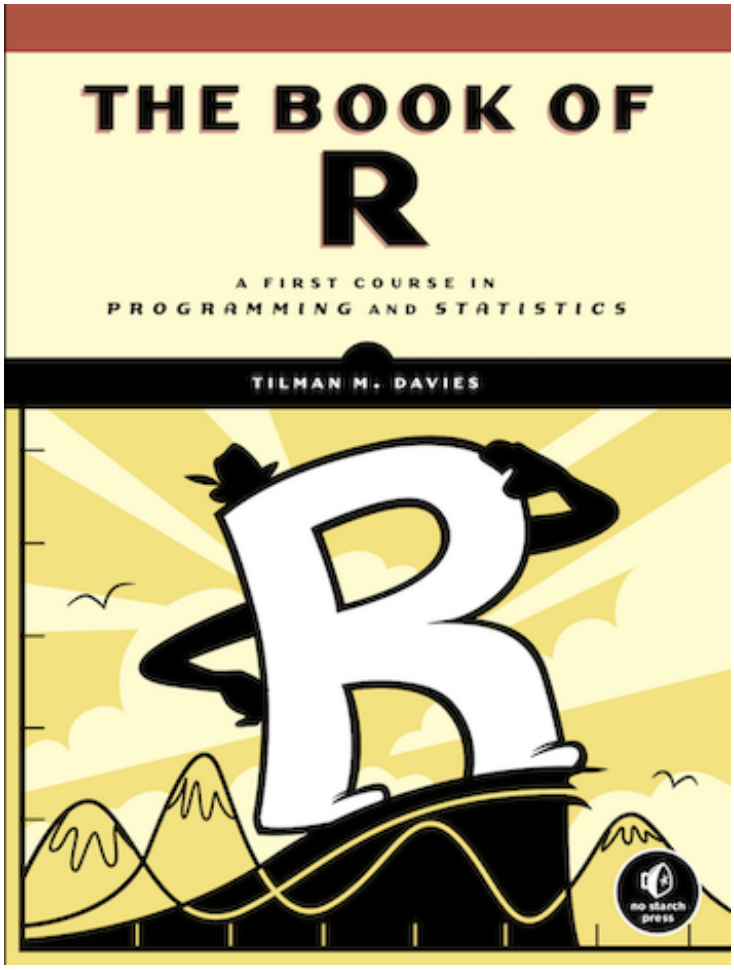
Syllabus

Software Tools for Earth & Environmental Sciences – 2019 Fall Term (16 Sept-27 Dec, Total : 15 Week)

1st Week – 20 Sept **Data and Code** • Syllabus • Data • Coding • New Accounts	2nd Week – 27 Sept **Linux and Python** • Terminal • Script and vi Editor • Anaconda-Jupyter Python	3rd Week – 4 Oct **Data Types, Download and NCL** • Data Types • Data Download • NCL	4th Week –11 Oct **Introduction to R** • Getting Started • Preview of Course • Introduction to R
5th Week – 18 Oct **R, The Language – Part 1** • Class • Types of Variables • Vectors	6th Week – 25 Oct **R, The Language – Part 2** • Matrices and Arrays • Strings • Factors	7th Week – 1 Nov **R, The Language – Part 3** • List • Data Frames • **Midterm Project**	8th Week – 8 Nov **ITU Fall-Term Break (no class)**
9th Week – 15 Nov **R Programming – Part 1** • Calling Function • Conditional statements	10th Week – 22 Nov **R Programming – Part 2** • Loops • Other Control Flow Mechanism	11th Week – 29 Nov **R, Data Import and Plot** • Reading and Writing Data • Basic Plotting - Graphics	12th Week – 6 Dec **R, Statistics** • Elementary Statistics • Basic Data Visualization
13th Week – 13 Dec **R, Probability** • Elementary Probability • Probability Distributions	14th Week – 20 Dec **R, Advance** • Data Analysis • readr, dplyr, tidyr • ggplot2, lattice	15th Week – 27 Dec **R - Final Project Workshop**	

PDF

Book



PDF

Data

- What is the Data
- Data Collection and Production
- Data Types, Formats and Source
- Popular Terms About Data
- Obtain and Get the Data

What is the Data

Data Collection and Production

Data Types, Formats and Source

Popular Terms About Data

- Data Science
- Data Analysis
- Big Data
- Data Mining
- Data Assimilation and Manipulation

Data Science

Data Analysis

Big Data

Data Mining

Data Assimilation and Manipulation

Obtain and Get the Data

Code

- Operational Systems
- Programming Languages
- Fields of Programming
- Popular Terms About Programming
- Interpretation and Visualization
- Algorithm, Simulation and Modeling

Operational Systems

- Microsoft Windows
- Unix
- Apple Macintosh OS
- Linux OS

Programming Languages

- C
- Fortran
- JavaScript
- Python
- R
- NCL

Fields of Programming

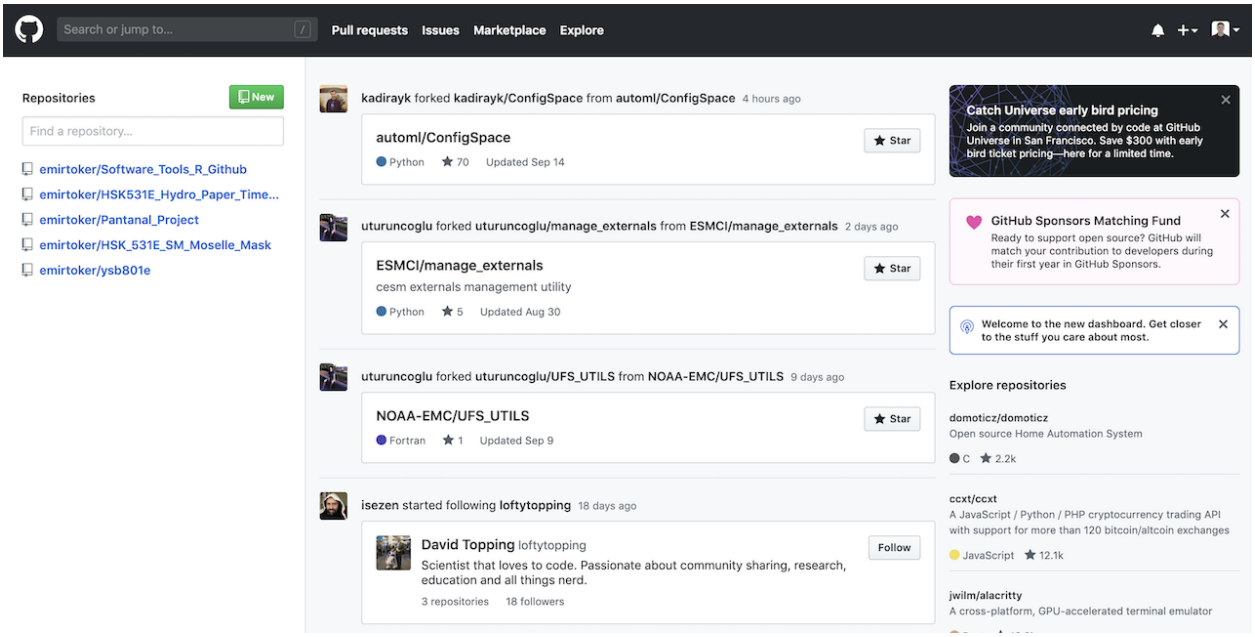
Popular Terms About Programming

- Artifical Intelligent
- Machine Learning
- Deep Learning
- Internet of Things

NEW ACCOUNTS

- Github, Researchgate, DOI Code, ORCID, Overleaf(LaTeX)
- Mendeley, Panoply, Sublime Text, Filezilla
- ArcGIS, QGIS
- Anaconda, Jupyter, Cygwin, R Studio, NCL
- Meted, Coursera, Udemy, Datacamp, Edx, Khanacademy
- Stackoverflow, Wolfram-alpha, Dropbox, Wetransfer

Github



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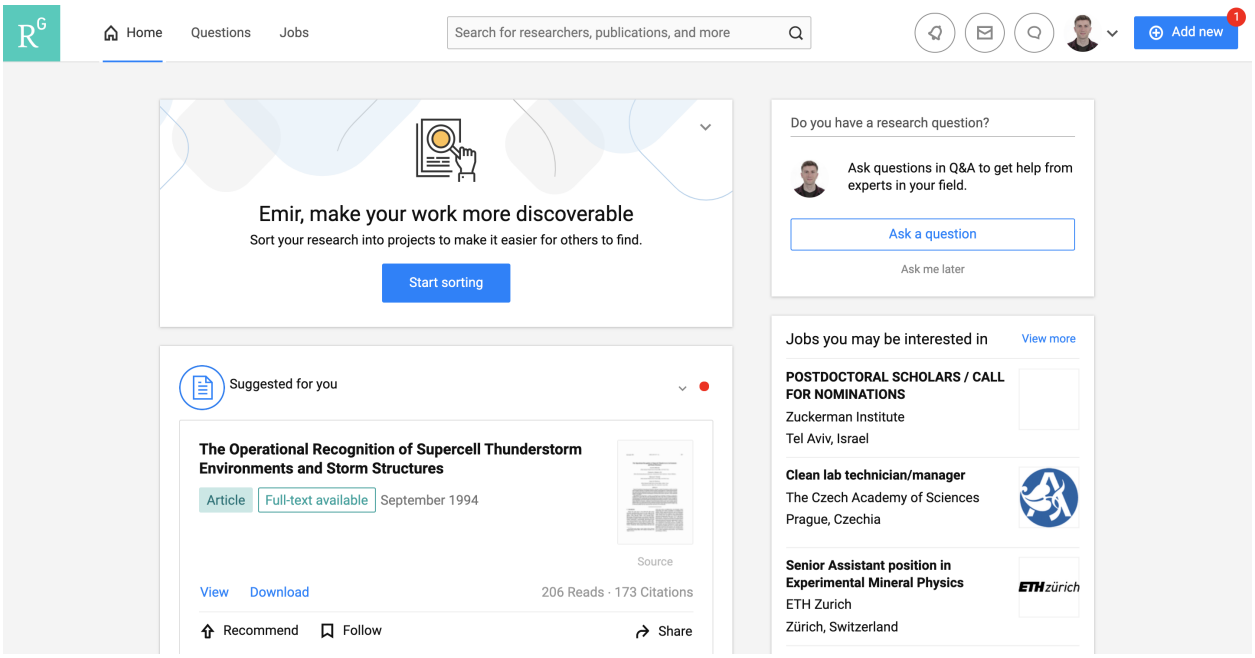
Researchgate



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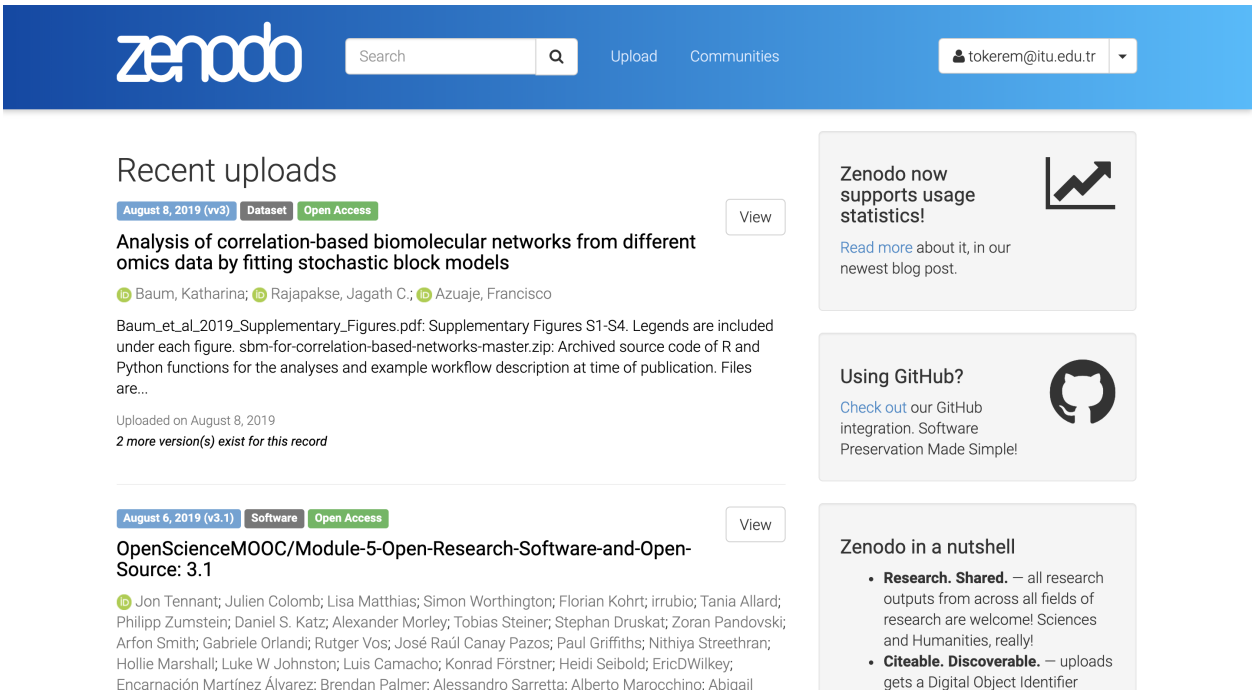
DOI Code - (digital object identifier) - Zenodo



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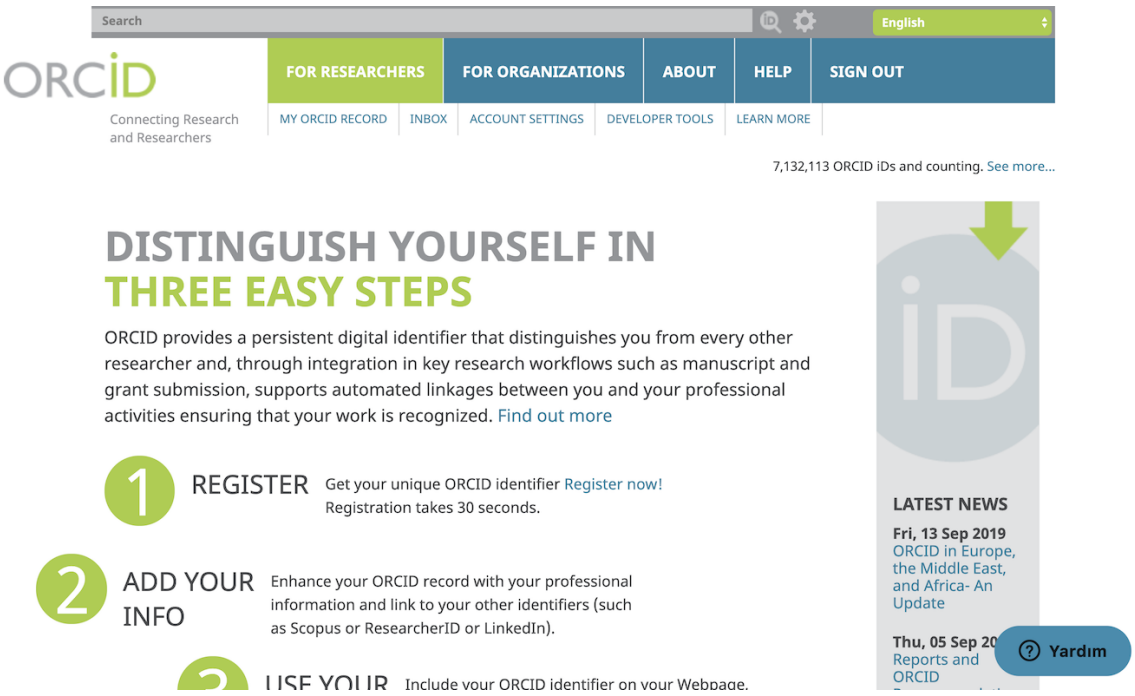

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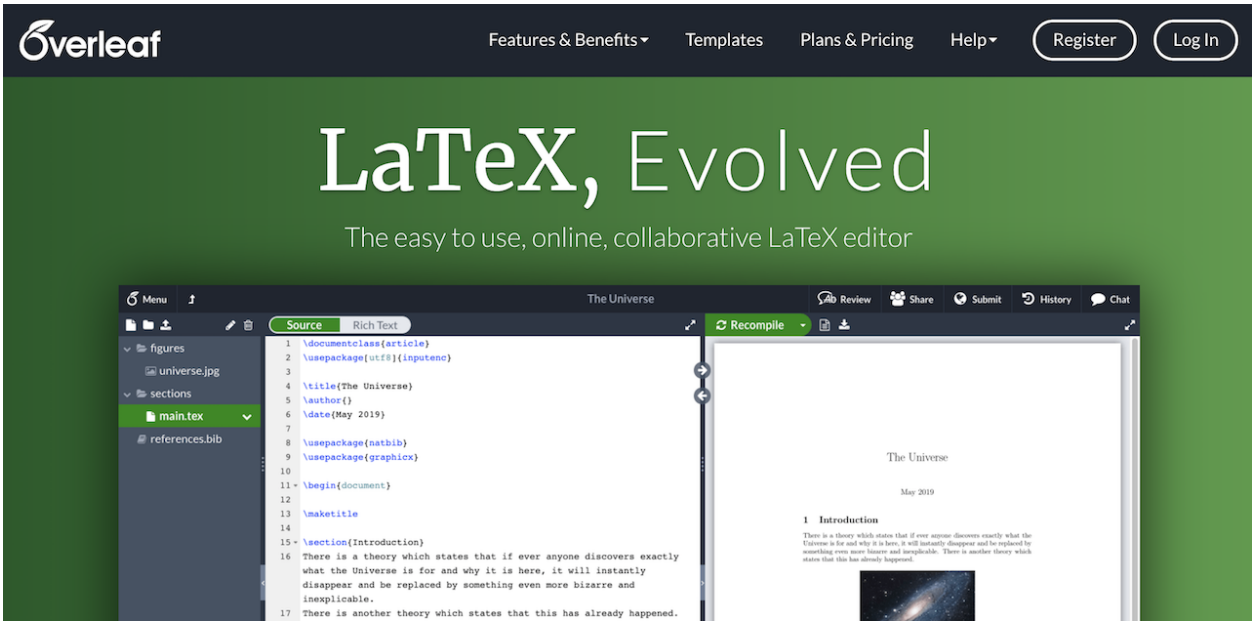
Overleaf (LaTeX)



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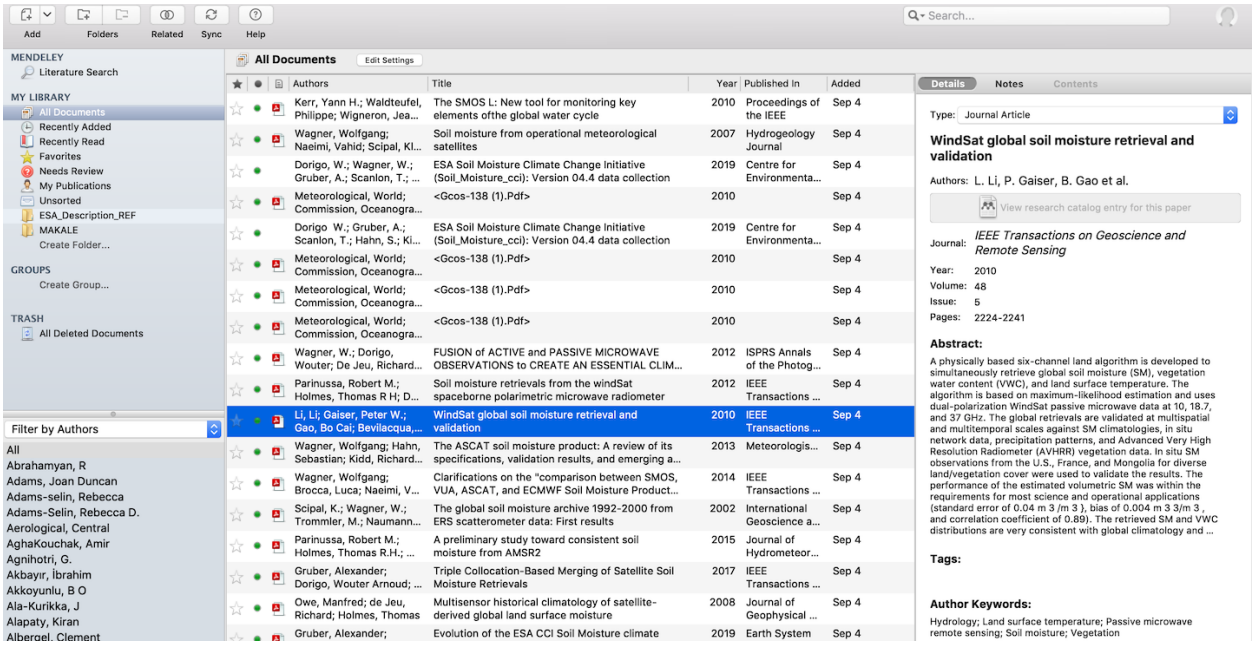
Mendeley



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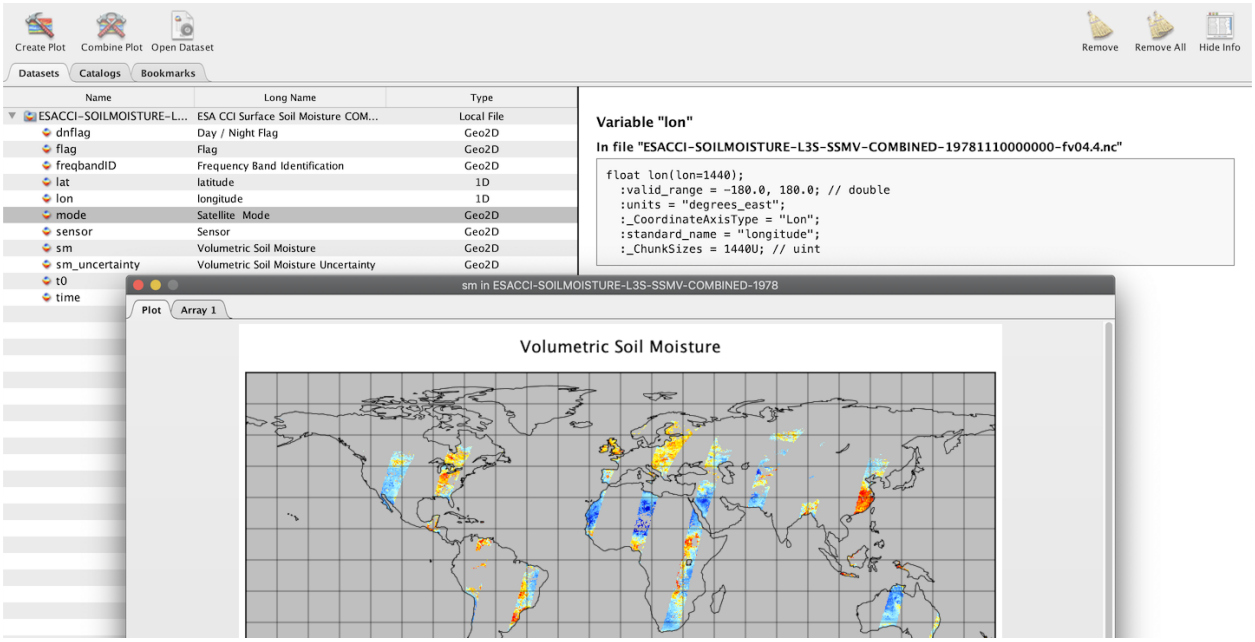
Panoply



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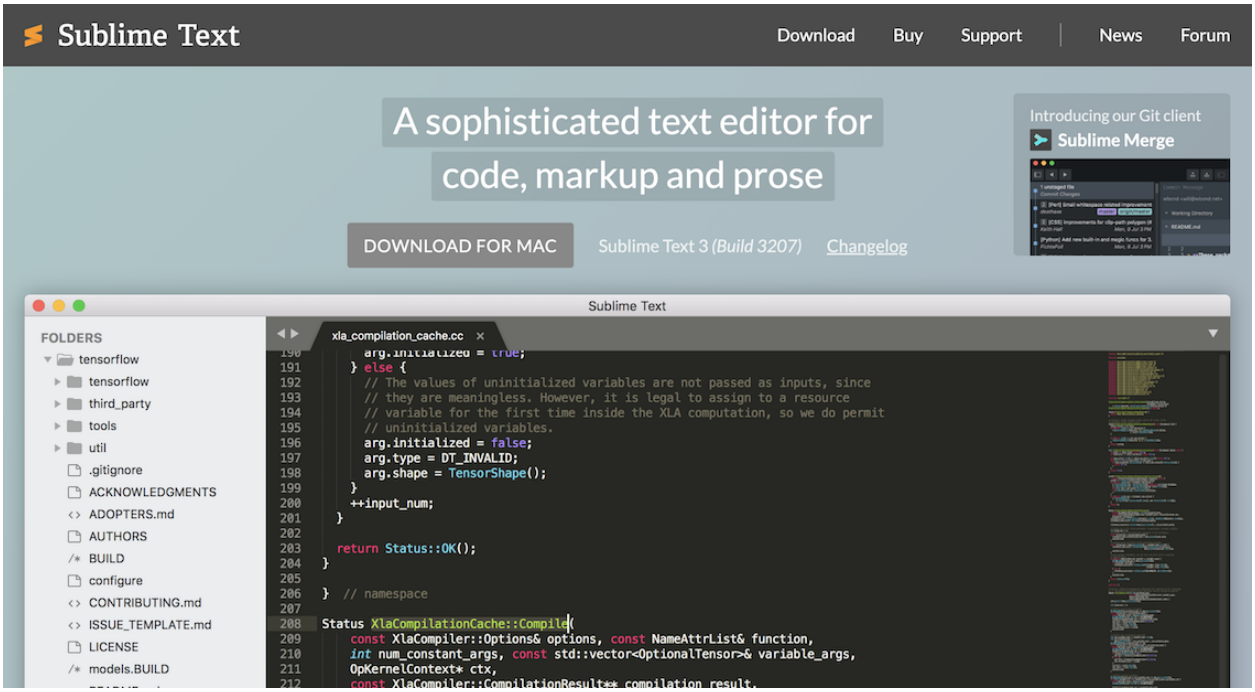
Sublime Text



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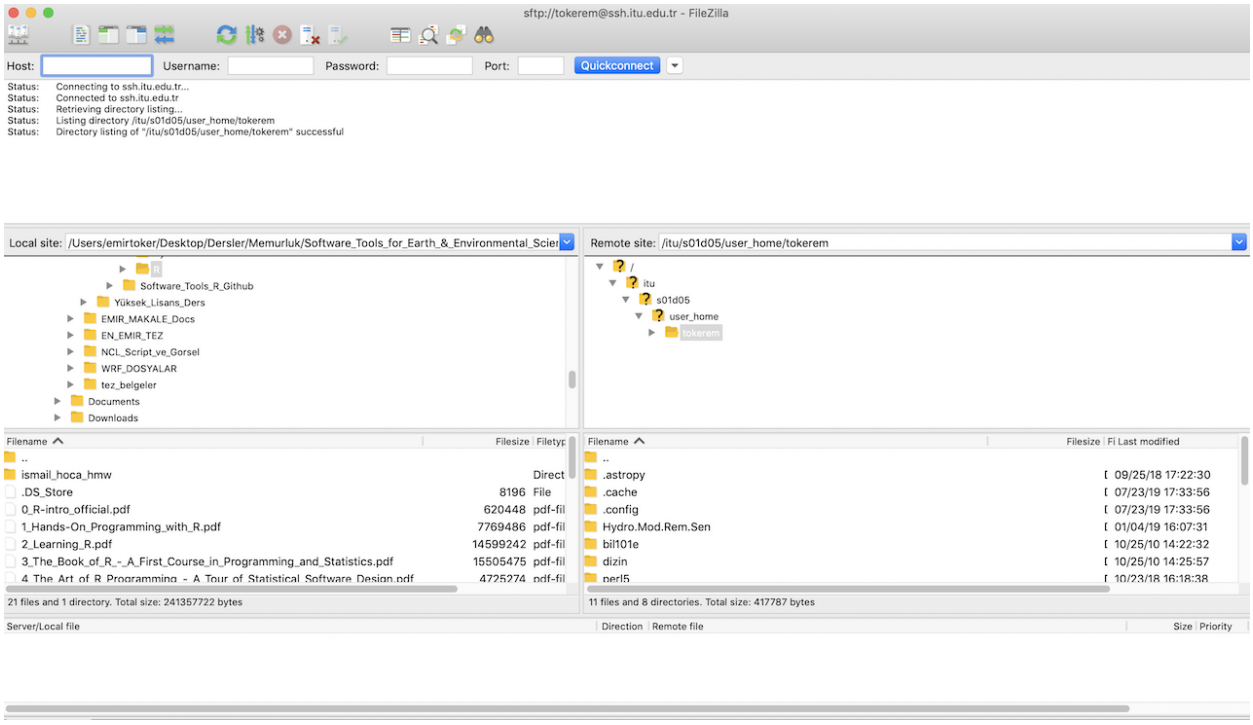
Filezilla



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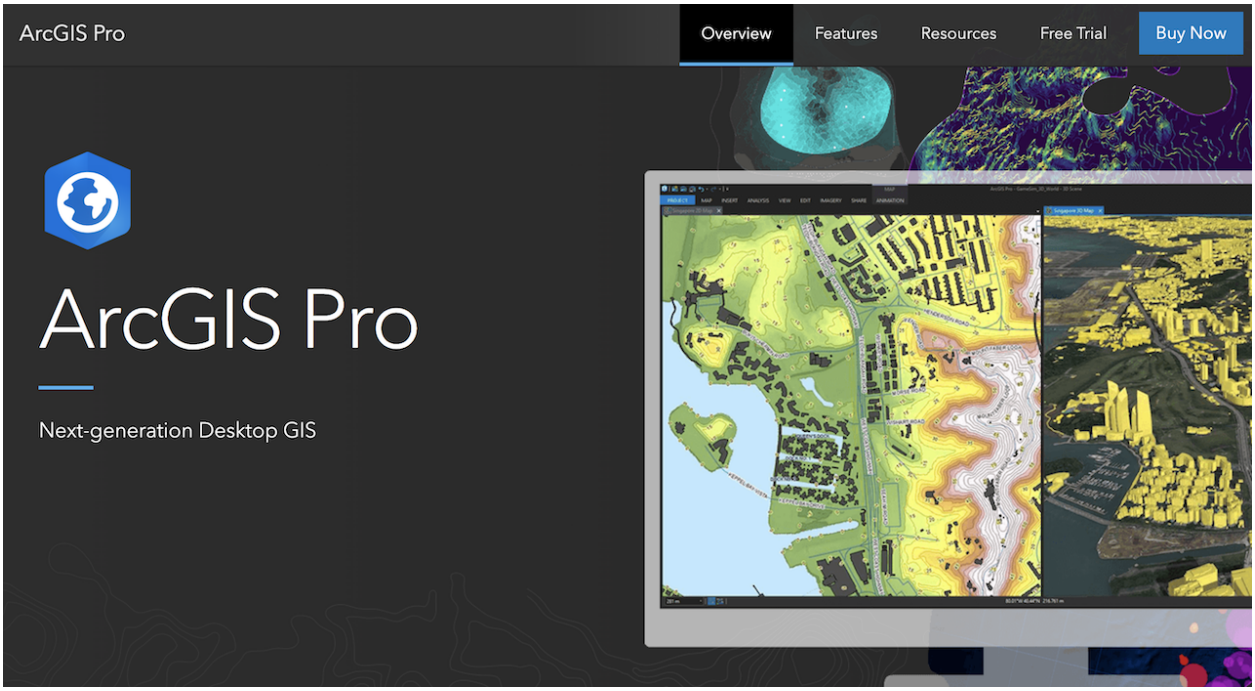
ArcGIS



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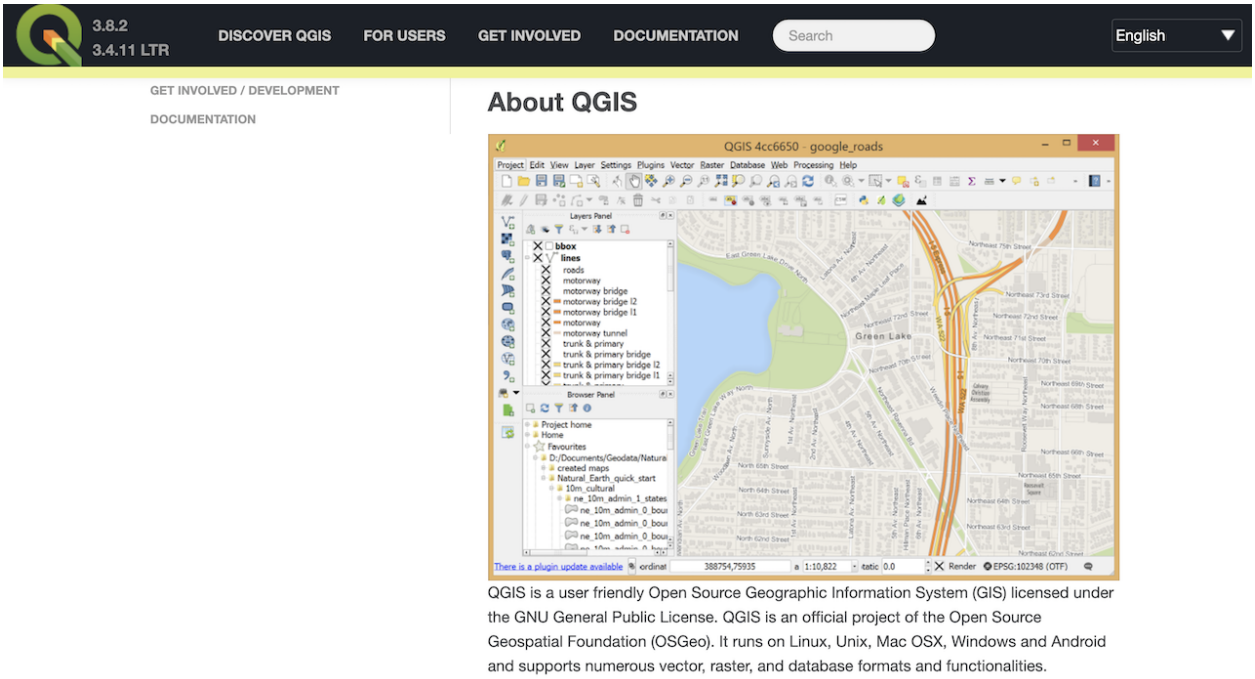
QGIS



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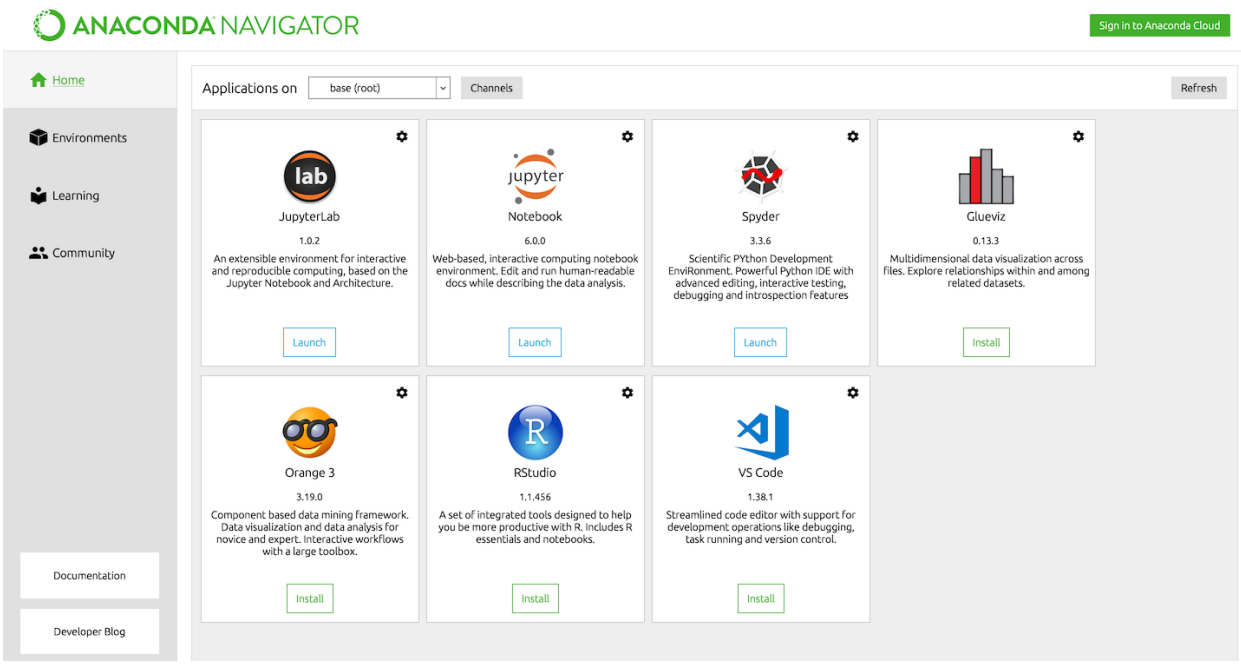
Anaconda



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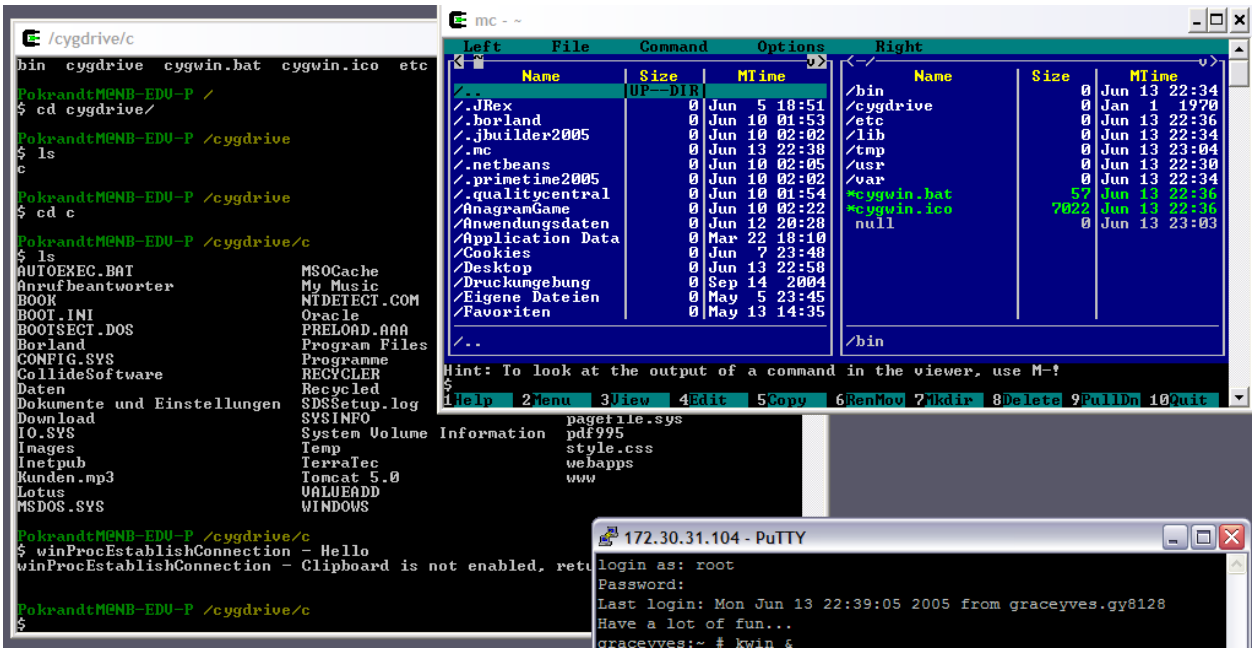
Jupyter

LINK

Cygwin



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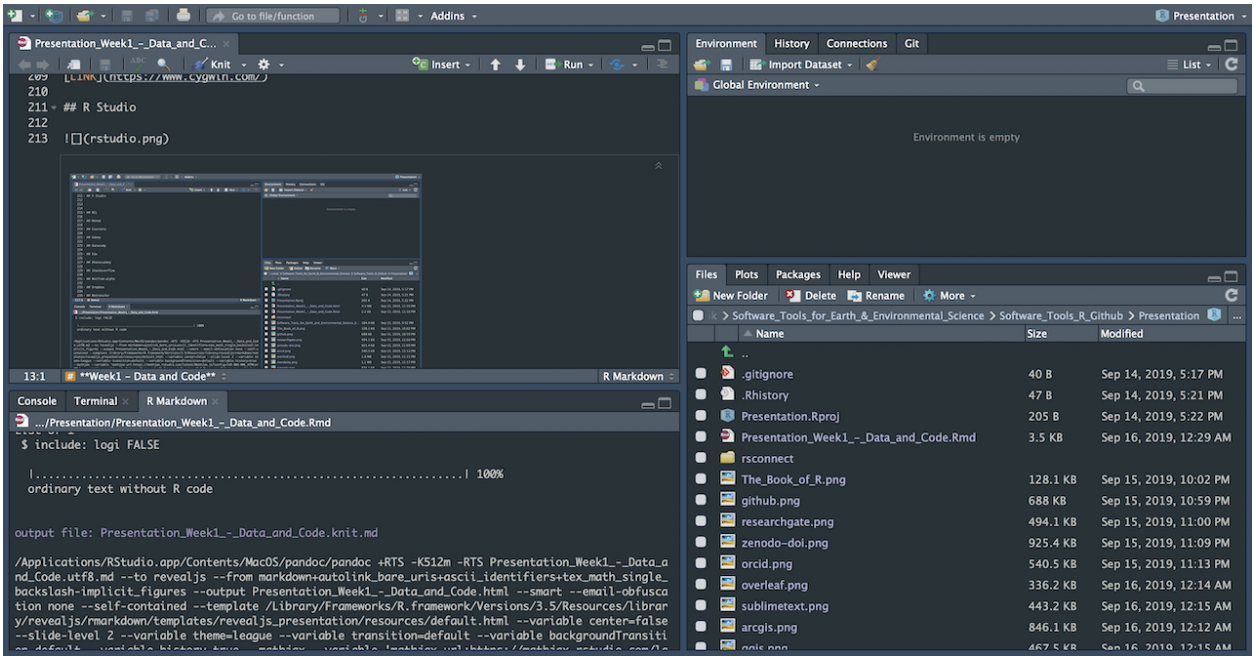
R Studio



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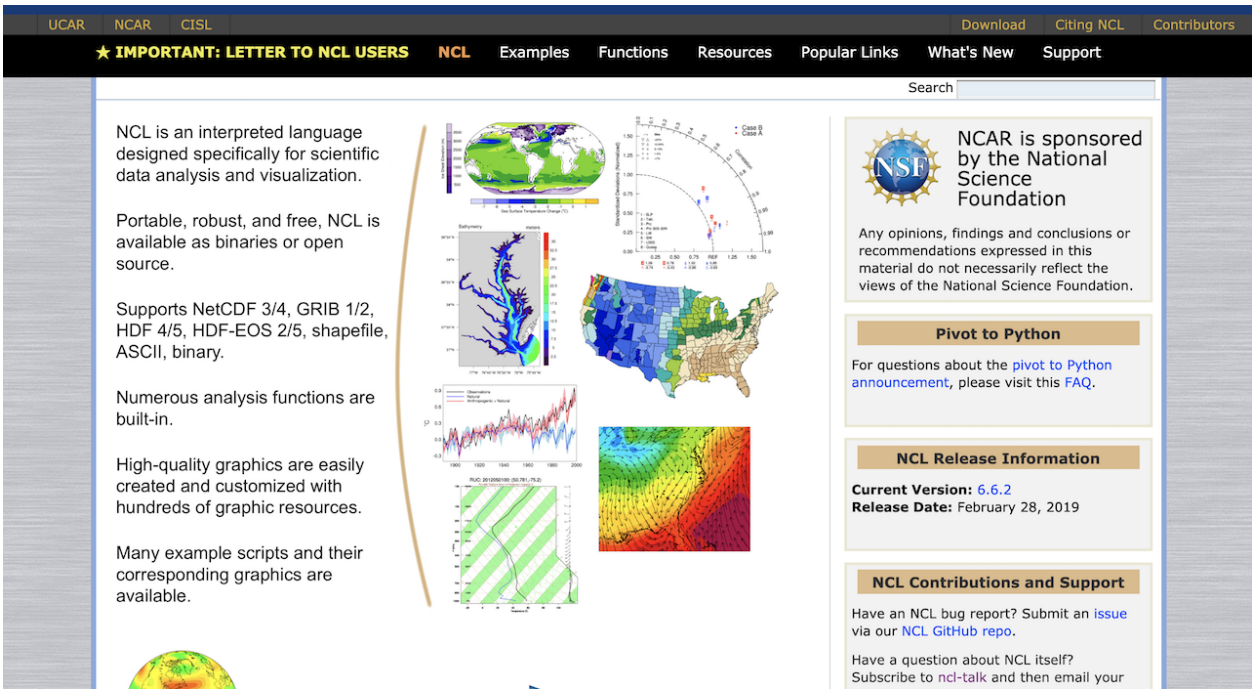
NCL



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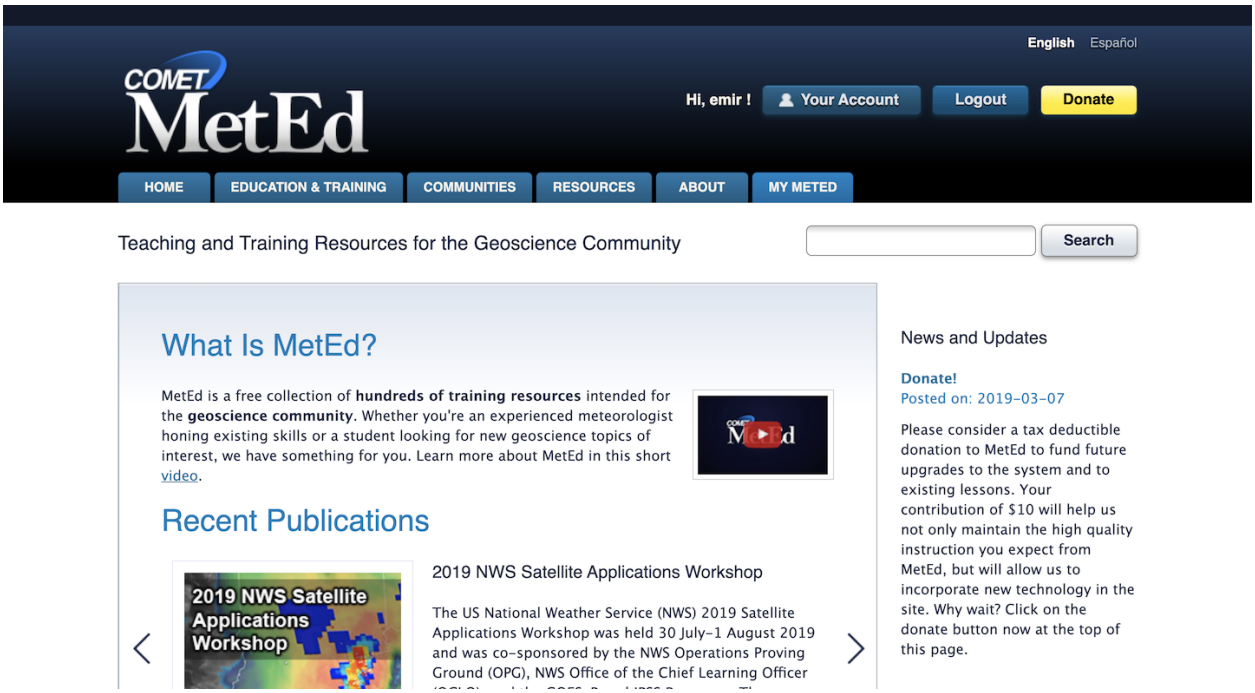
Meted



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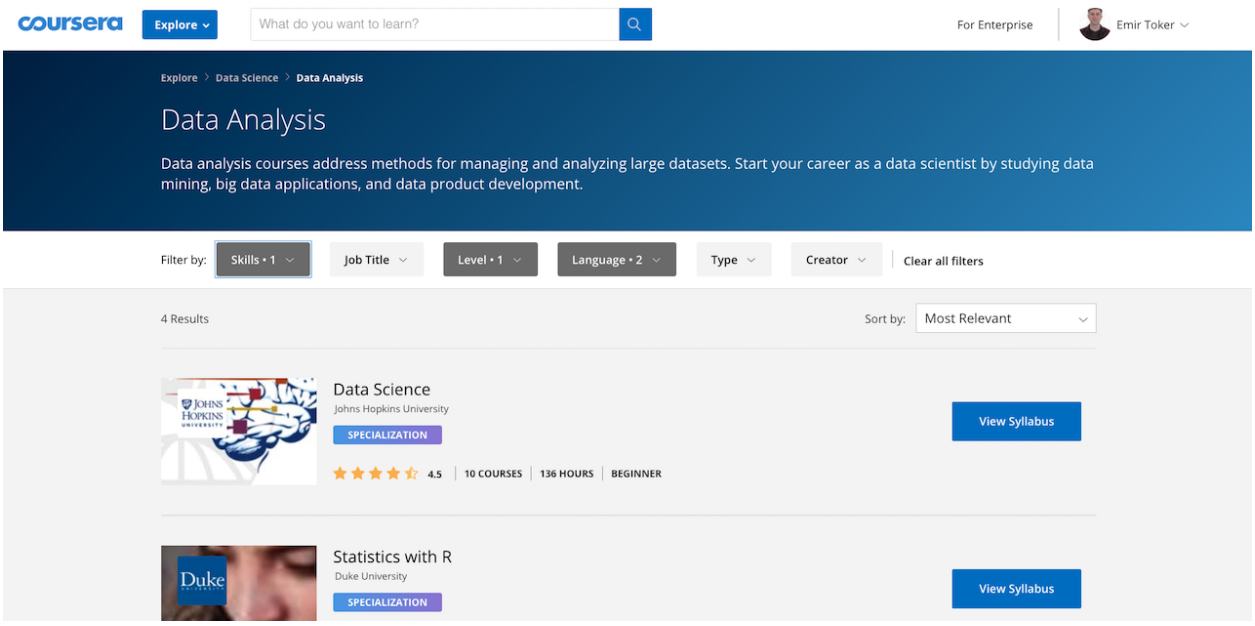
Coursera



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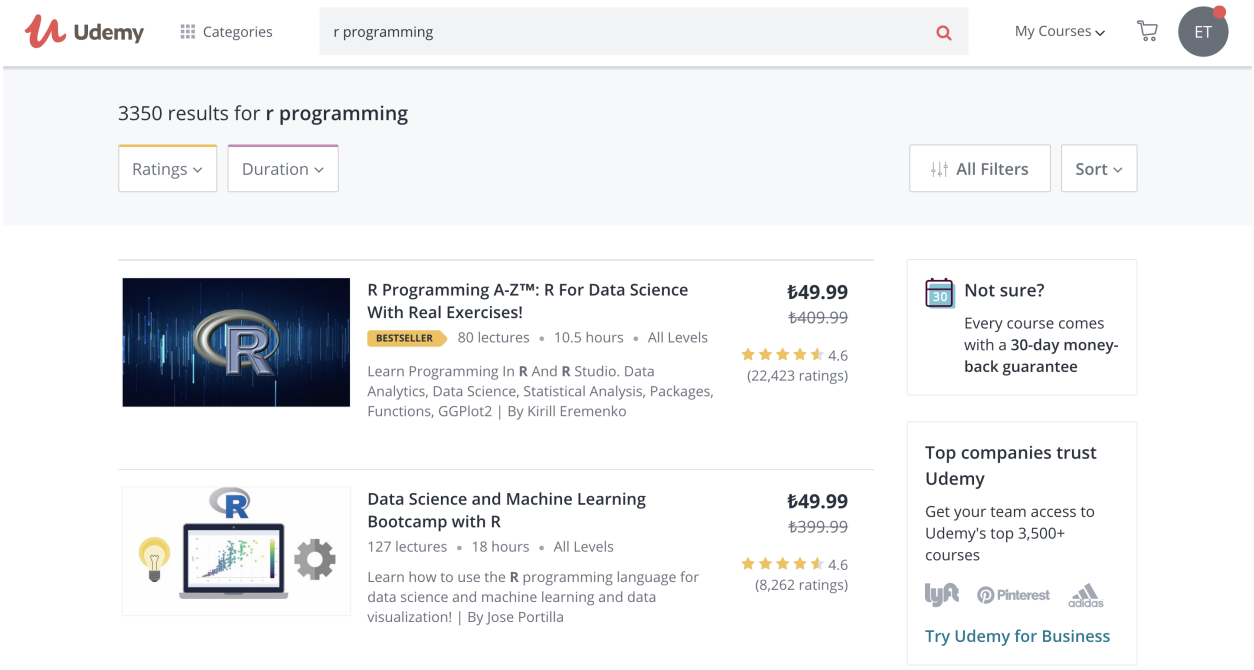
Udemy



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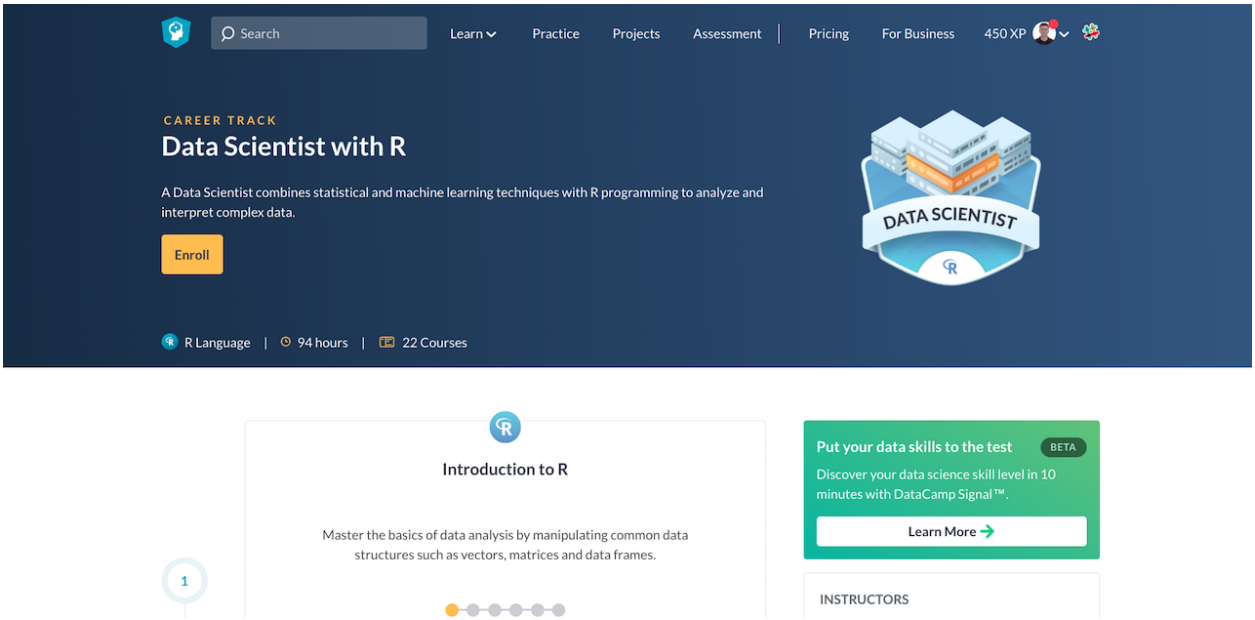
Datacamp



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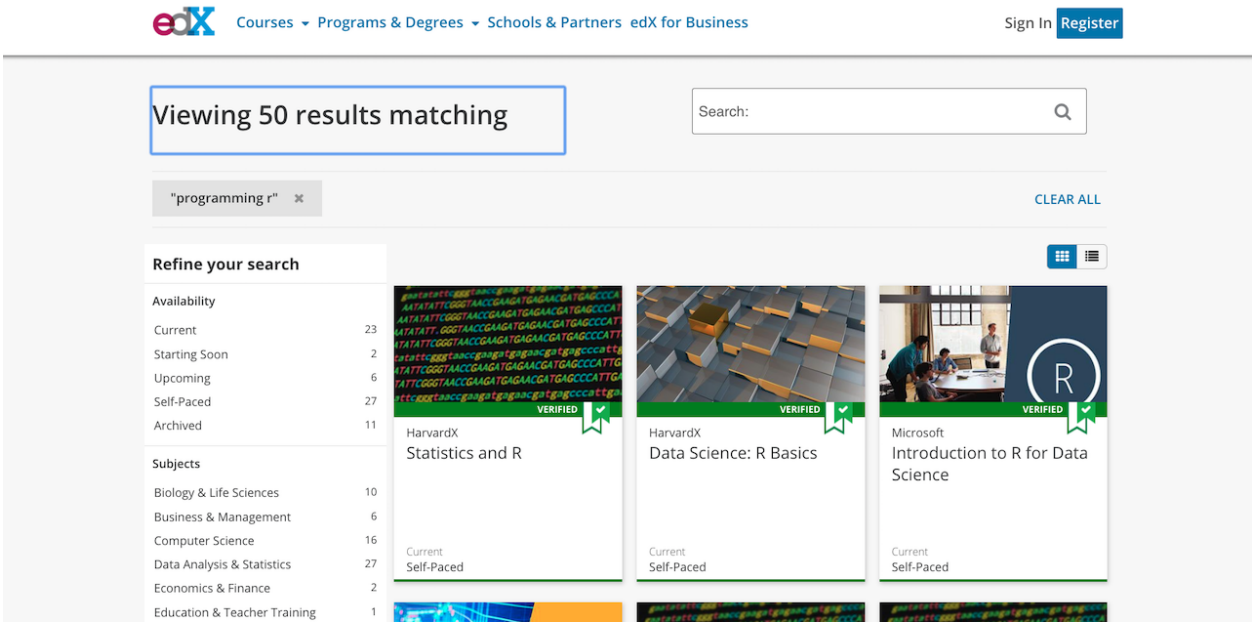
Edx



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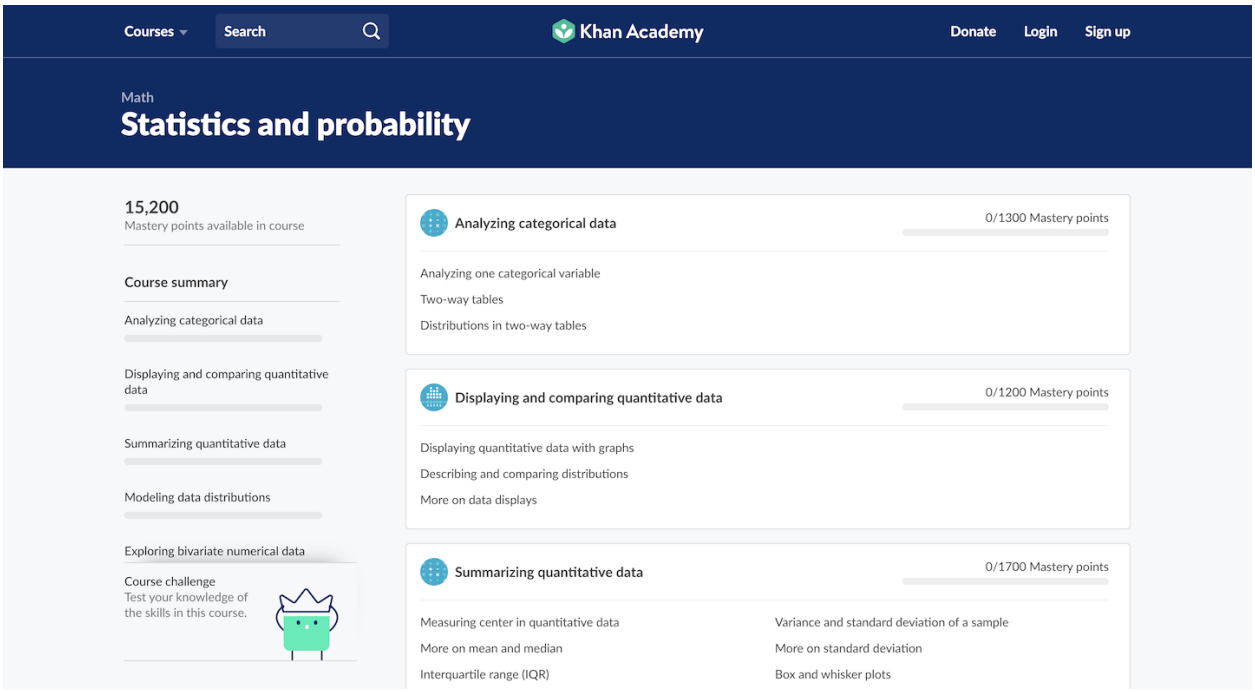
Khan academy



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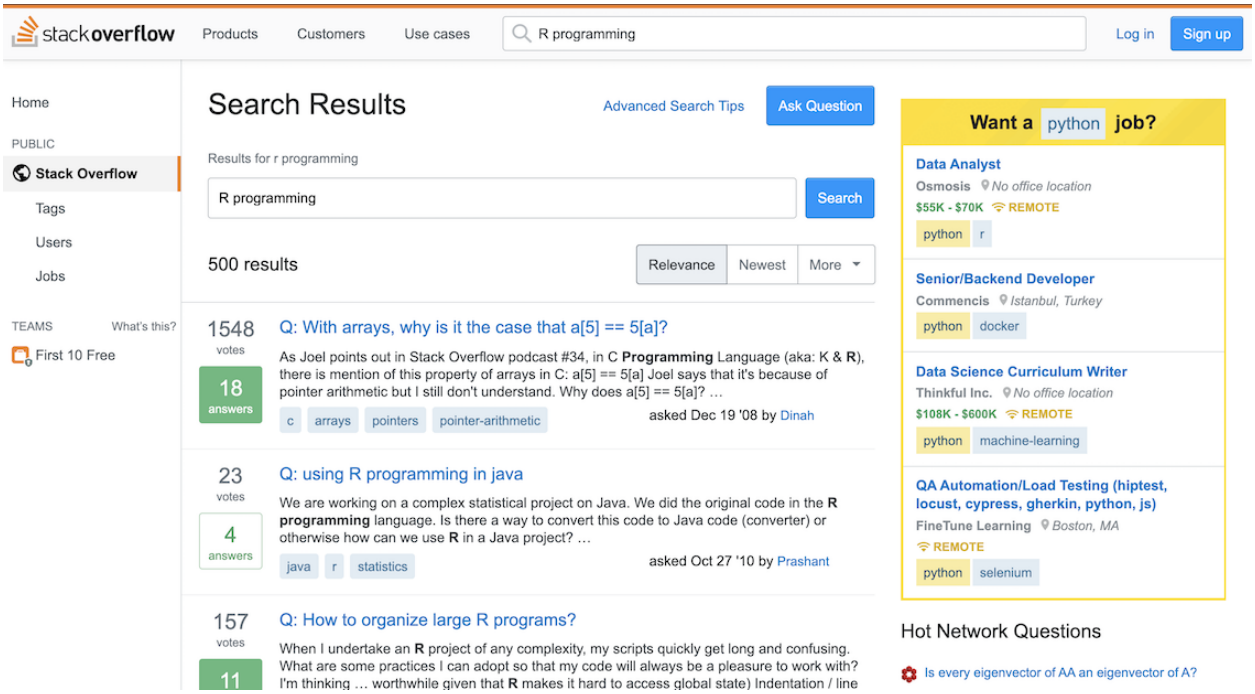
Stack overflow



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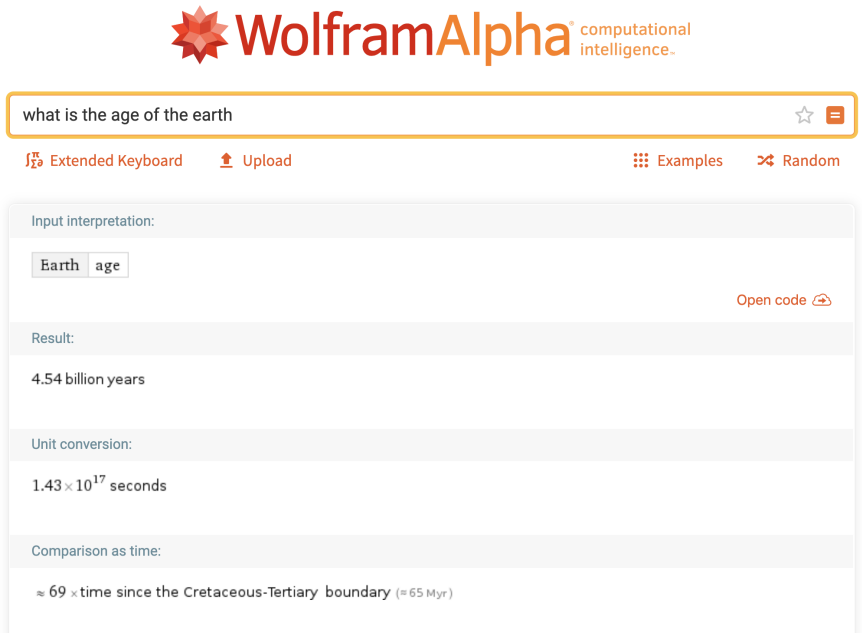
Wolfram alpha



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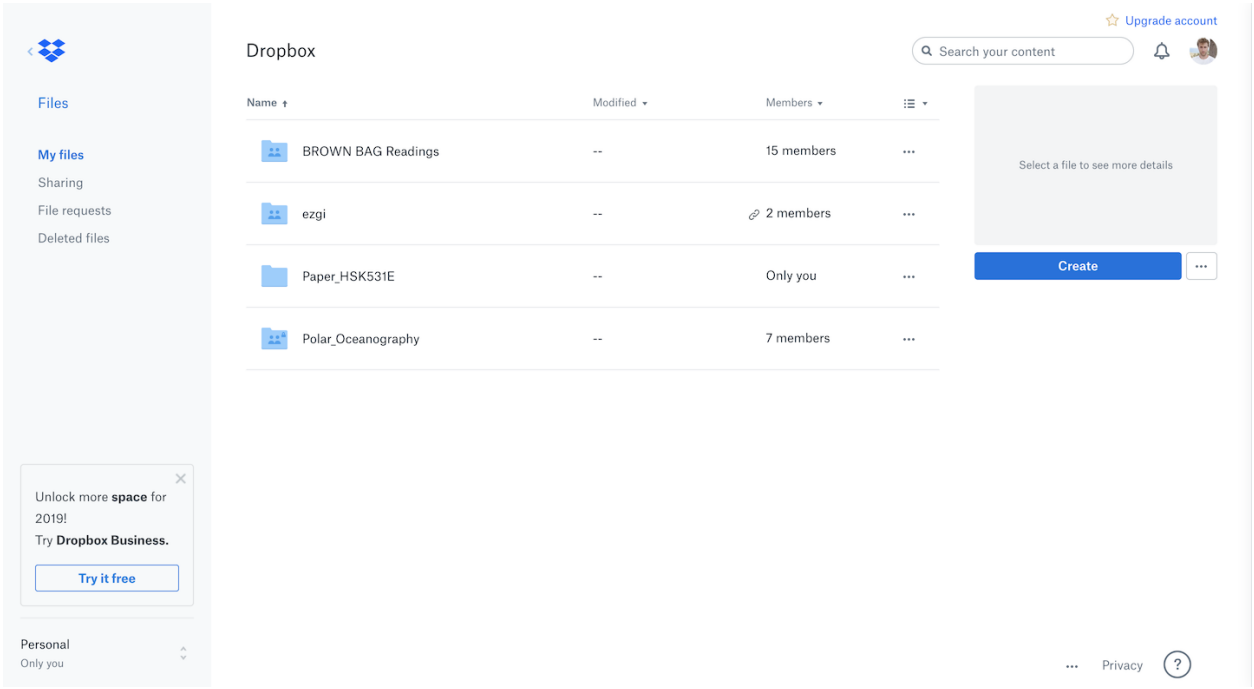
Dropbox



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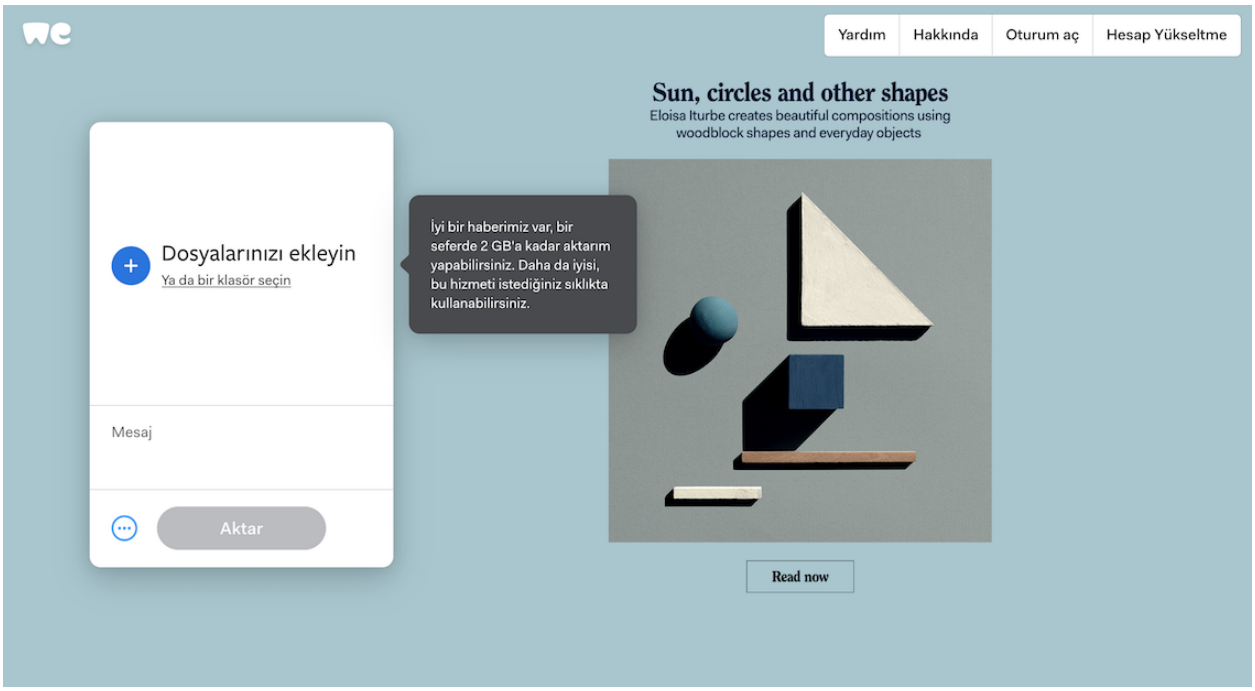
Wetransfer



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