



Silesian
University
of Technology

Programming in R and Python

Lecture 8 - R web applications

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Homework practice



Practice

Download the genbank.RData dataset

- 1) Extract the accession number, the definition and the organism .
 - 2) Extract all MEDLINE article numbers which are mentioned in the entries.
 - 3) Extract the DNA, merge the entire sequence and complement it.
- Hint: In the DNA guanine (g) is complemented by cytosine (c), adenine (a) by thymine (t).



Practice

Prepare a report using R Markdown and knitr from the clustering practice exercise from the previous lecture. Include descriptions of the subsequent steps and all of the plots with descriptions.

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Sharing work results in R



In the old days...

Sharing R scripts

- + Open to modifications
- Only advanced users (programmers) had the ability to manage



R Markdown report

- + Control over the analysis content and pipeline
- No possibility for others to interact with the results



These days...



<https://shiny.rstudio.com/tutorial/>

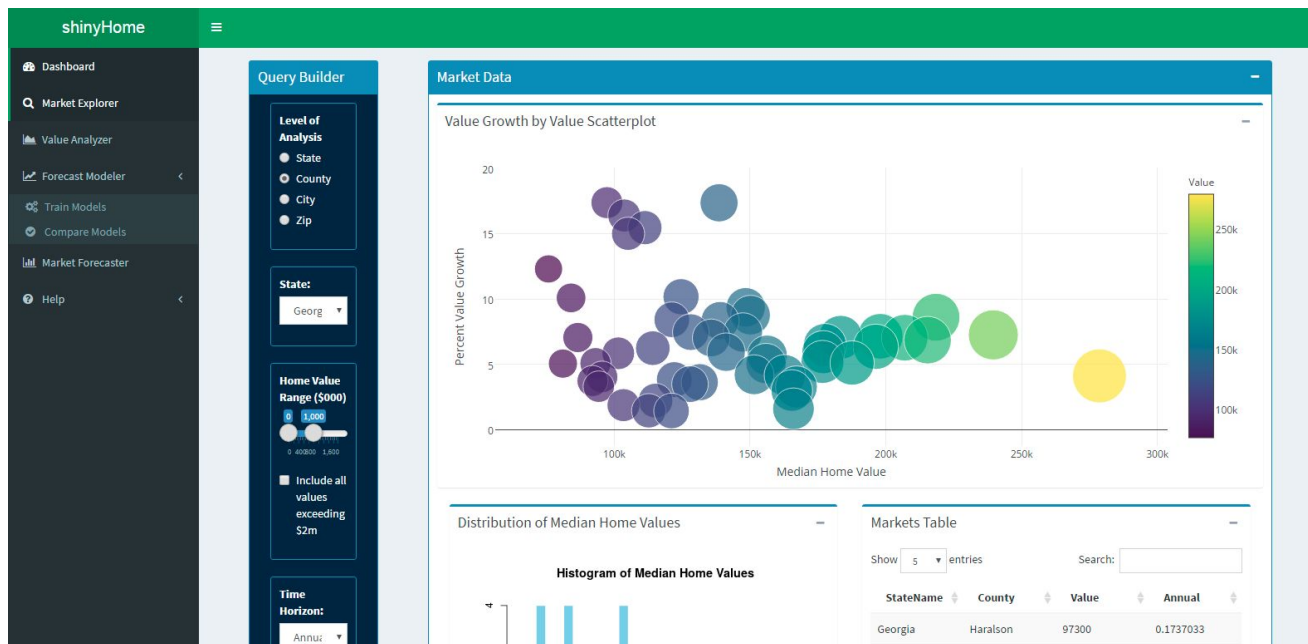


Shiny

R package made for facilitating building interactive web apps from R. The possibilities include:

- Hosting standalone apps
- Embedding in R Markdown
- Building dashboards
- Extensions with CSS themes, htmlwidgets and JavaScript

Examples



Examples

Fantasy League

Optimize Squad

Past Performance

Top Fantasy Team Stats

Fixture Difficulty Rating

Player's History


Fantasy Teams Stats

Current Club

Crystal Palace

Player

Connor Wickham



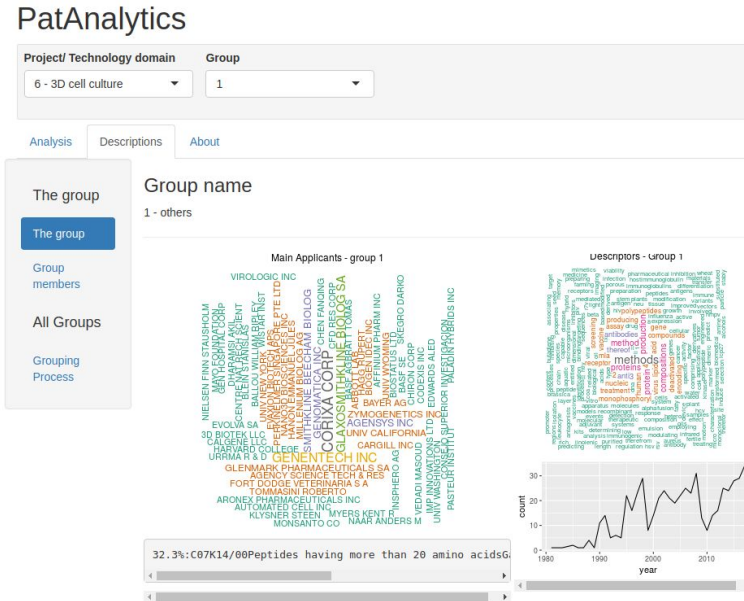
Top Fantasy Teams

season	season_name	start_cost	end_cost	total_pts	minutes	goals_scored	assists	clean
11	2016/17	6	5.5	18	412	2	0	
10	2015/16	6	5.4	70	1321	5	3	
9	2014/15	6	5.6	85	2768	5	1	
8	2013/14	5	4.9	58	847	5	2	
7	2012/13	5.5	5	15	443	0	0	
6	2011/12	6	5.6	24	532	1	0	

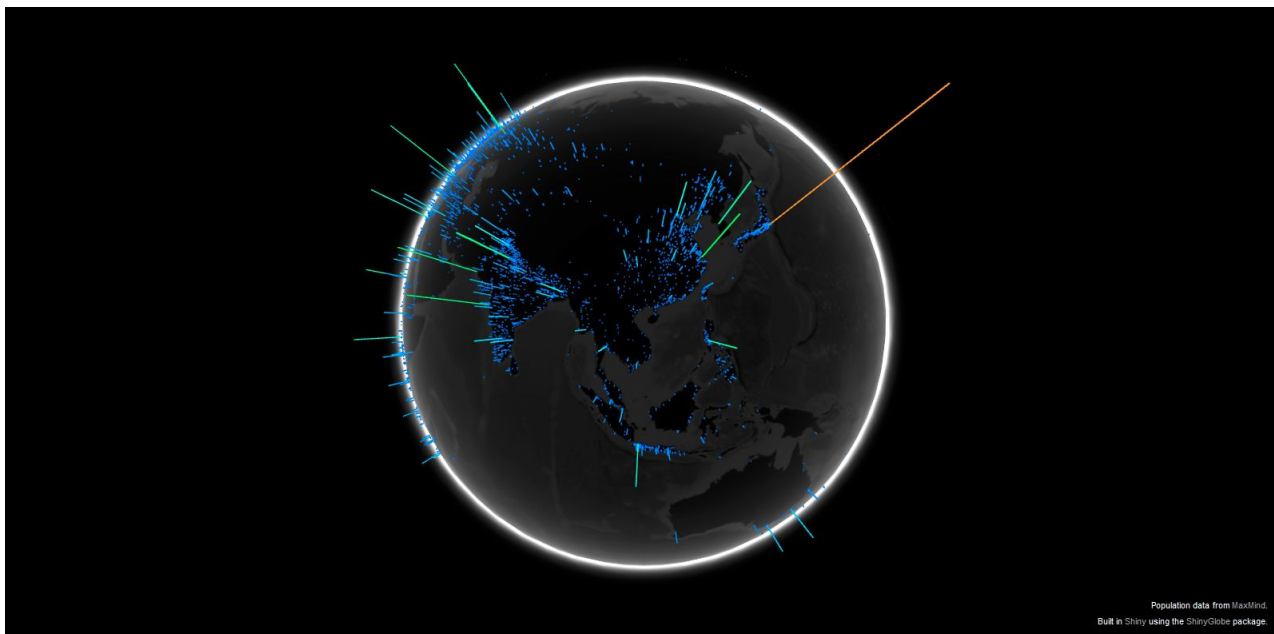
Showing 1 to 6 of 6 entries



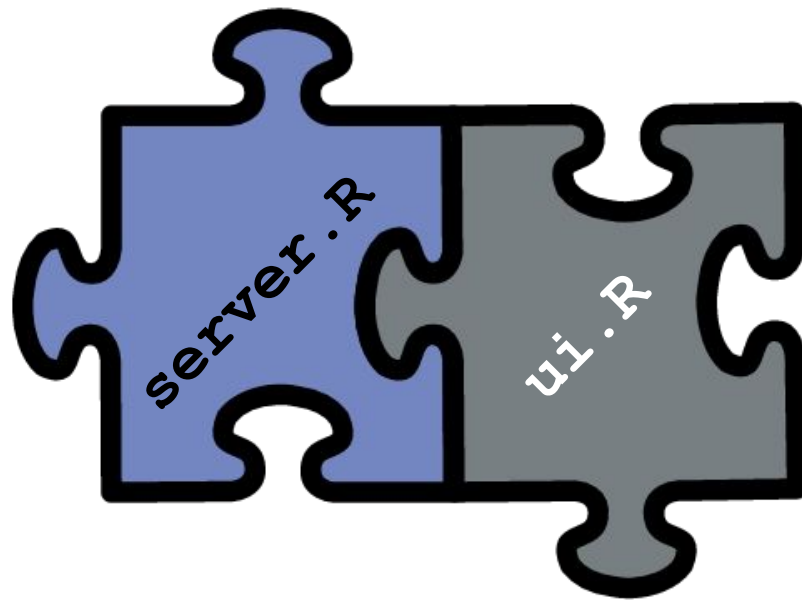
Examples



Examples



Two pieces of a Shiny application



R Studio®

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To sum up

By now:

- You know the basic and maybe not so basic applications of R
- You know how to use the R language for data science purposes
- Now you'll get some hands-on experience in the laboratory sessions.

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What do R and Python users have in common?





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I APPRECIATE YOUR ATTENTION

See you in the lab sessions!

