

How R and Quarto learning boosts research productivity

Zahid Asghar

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میں کیوں شامل ہوں۔ Econfest



چلو چلو لاہور چلو

- متوقع نتائج:
 - معیشت پر عام فہم گپ شپ
 - طلباء کے لیے حقیقی مسائل پر تحقیق کے لیے گفتگو کے مواقع
 - مختلف شعبوں سے تعلق رکھنے والے سرکردہ اسکالرز ایک ہی چھت کے نیچے جامع بحث
 - فکری میلوں کی طرف ایک اہم قدم
 - تعلیمی اداروں کے درمیان تعاون
 - اور

Learning...

- **You don't “learn R”, you learn how to do things in R**
- In order to do learn this, you need to learn how to search for what you want to do
- **Quarto for beautiful documents (pdf, word, html, pptx, revealjs, beamer, website, blogs, book/thesis/reports)**

R

- **Free** and **open source**
- A very large community
- Can handle virtually any data format
- Makes replication easy
- Can integrate into documents (with **Quarto**)
- R is a *language* so it can do *everything*
 - A good stepping stone to learning other languages like *Python*



Excel (or Stata) Can't Do This

Code

Output

```
1 ggplot(data = gapminder,  
2       aes(x = gdpPercap,  
3           y = lifeExp,  
4           color = continent))+  
5   geom_point(alpha=0.3)+  
6   geom_smooth(method = "lm")+  
7   scale_x_log10(breaks=c(1000,10000, 100000),  
8                label=scales::dollar)+  
9   labs(x = "GDP/Capita",  
10        y = "Life Expectancy (Years)")+  
11   facet_wrap(~continent)+  
12   guides(color = F)+  
13   theme_light()
```

Or This

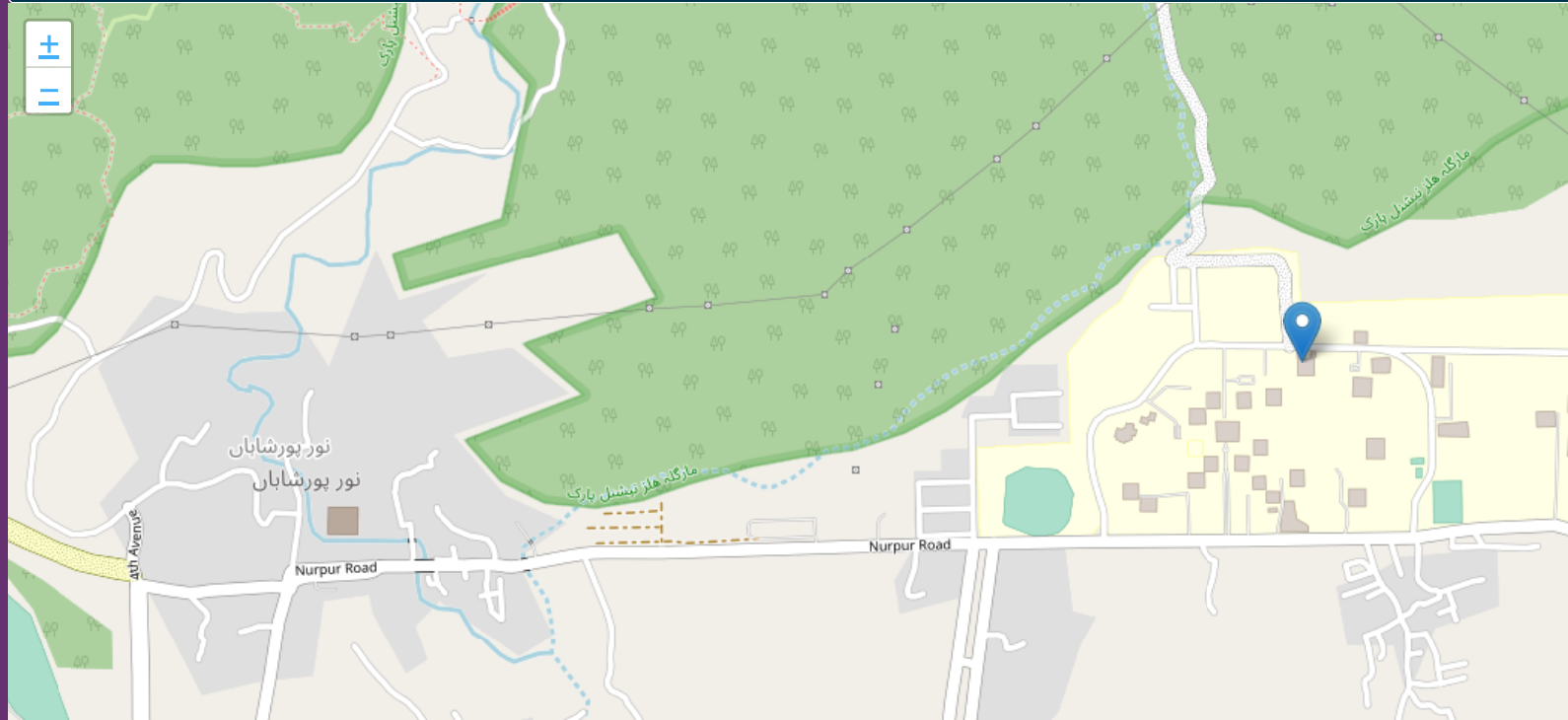
Input

Output

The average GDP per capita is `r
`dollar(mean(gapminder$gdpPercap))` ` with a
standard deviation of `r
`dollar(sd(gapminder$gdpPercap))` `.

Or This

```
1 library(leaflet)
2 leaflet() %>%
3   addTiles() %>%
4   addMarkers(lng = 73.1387, lat = 33.7492 ,
5             popup = "School of Economics, QAU, Islamabad")
```



Training Outline

Meet R

Data Wrangling

Data Visualization

**Learn Having Beautiful Regression
Models**

**Learn to create beautiful documentation
in Quarto**

