Short Course in **Machine Learning with R**

Department of Mathematics, Lahore

Instructor

Majid Hasan Khattak [1]

✉ timesaver@gmail.com

[1] Department of Maathematics, COMSATS University Islamabad, Lahore Campus

Introduction

It is a beginner level course that does not require a knowledge of statistics, mathematics, machine learning and programming. The course will provide an intuitive understanding of machine learning (as applicable in the industry) instead of long theoretical details. Students should bring their laptops with R and RStudio installed though instructions will be provided.

Learning Outcomes

- Understand the basic ideas of Machine Learning.
- Approach Machine Learning problems.
- Differentiate between Regression and Classification problems.
- Use Machine Learning in Data Science and Analytics.
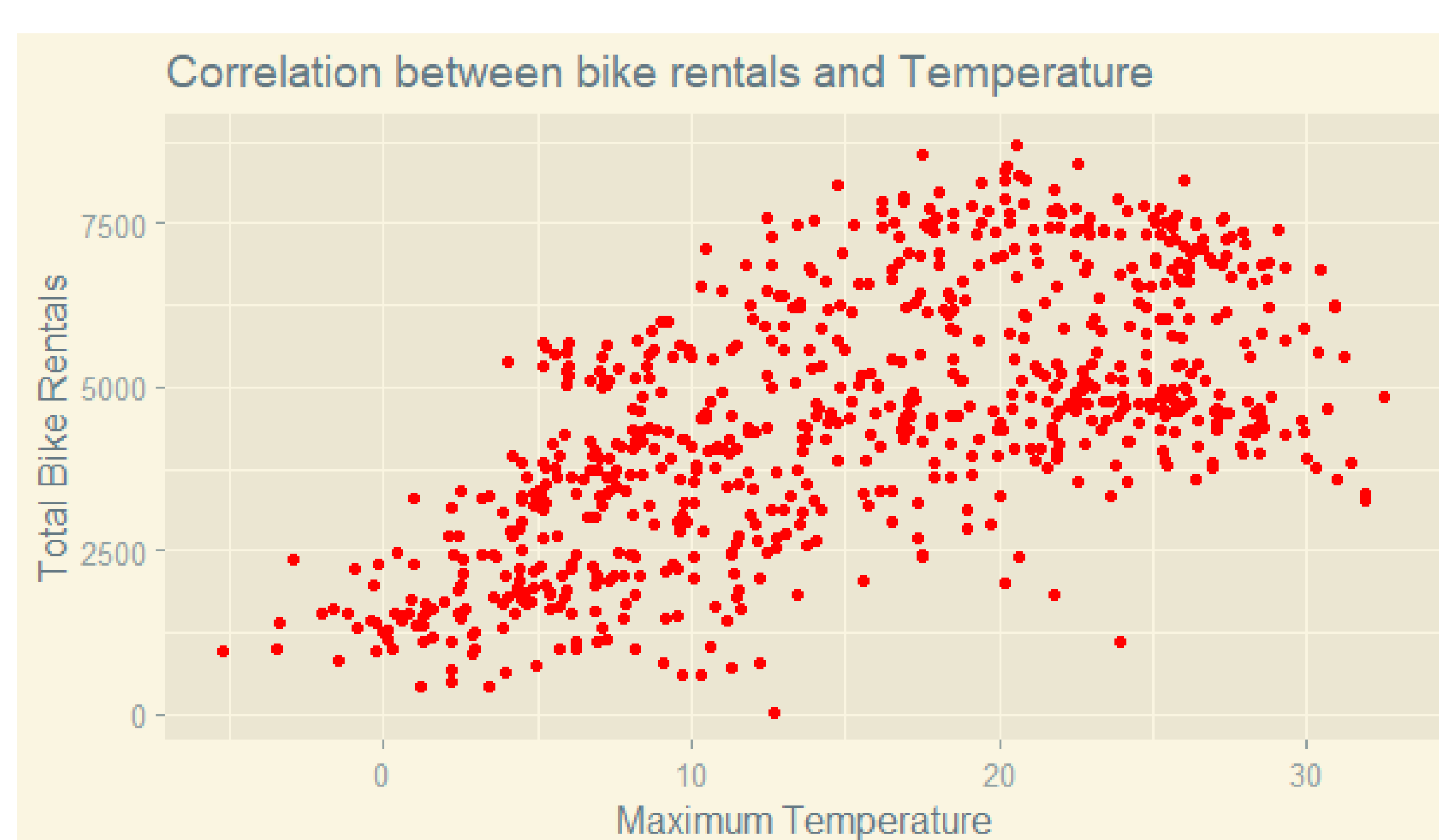- Solve industrial problems using Machine Learning.

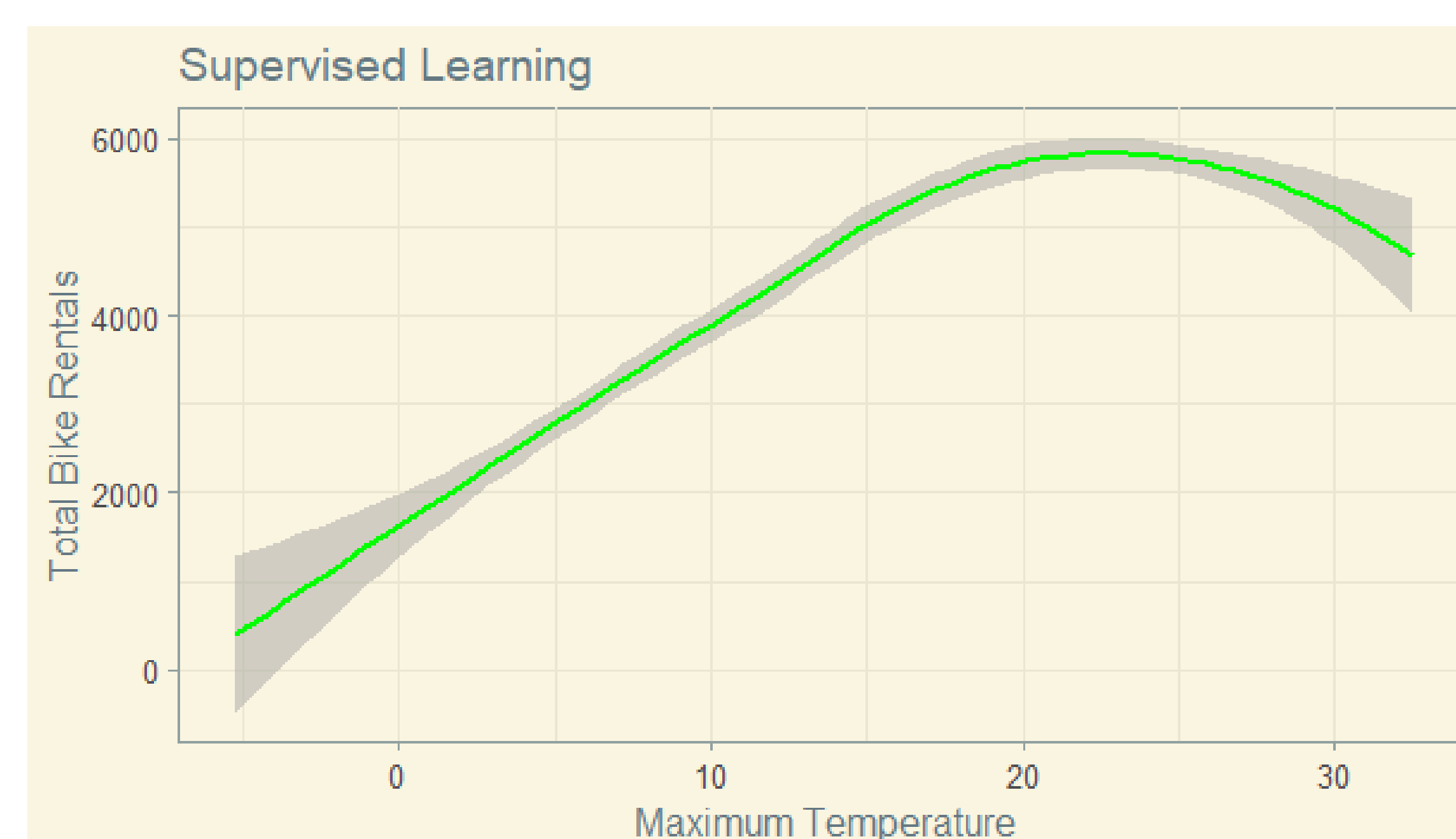Figure 1: Correlation between Temperature and Bike rentals

Figure 2: Supervised Learning (Regression)

dteday	temp	hum	tot
2011-01-01	8.175849	0.805833	985
2011-01-02	9.083466	0.696087	801
2011-01-03	1.229108	0.437273	1349
2011-01-04	1.400000	0.590435	1562

Who should attend this course

- Students and faculty interested in learning about machine learning.
- Students and faculty in the business analytics programs looking forward to use machine learning for business forecasting and related projects.
- Students and faculty in computer science wishing to learn and use machine learning in their final year projects.

Course Outline

- Introduction to R programming.
- Introduction to Machine Learning.
- Types of Machine Learning.
- Regression.
- Classification.
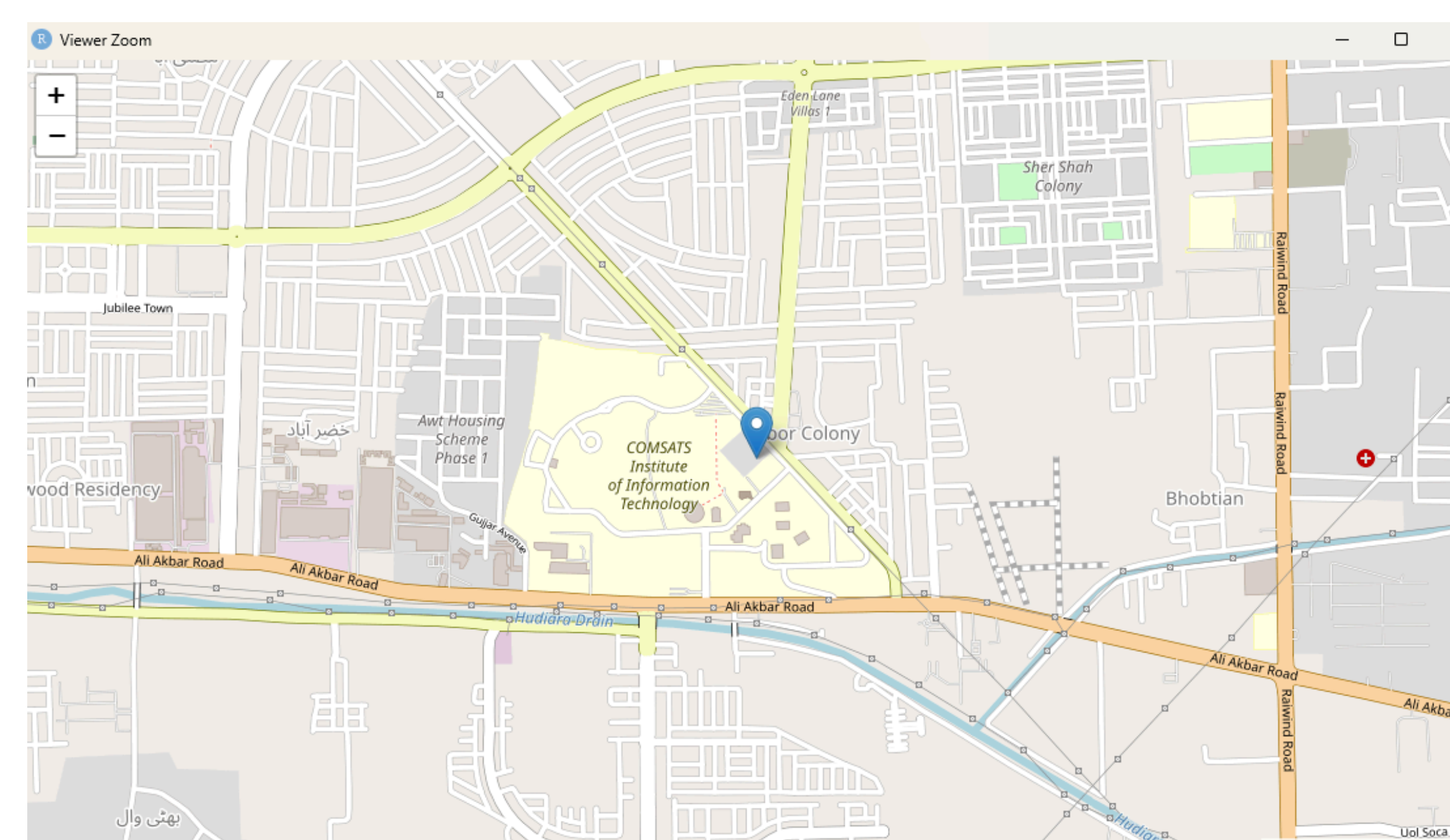- Unsupervised Machine Learning.

Figure 3: CUI Lahore

```
#Plotting the CUI Map

library(leaflet)

leaflet() %>%

  addTiles() %>%

  addMarkers(lng = 74.2126, lat = 31.4027,

             popup = "COMSATS Lahore")
```

Schedule

- Course length is 9 working days (1.5 hours per day).

Thursday	Friday	Timings
14 Nov	15 Nov	16:00 - 17:30
21 Nov	22 Nov	16:00 - 17:30
28 Nov	29 Nov	16:00 - 17:30
05 Dec	06 Dec	16:00 - 17:30
12 Dec		16:00 - 17:30

Registration and Fees

- For registration click on the following link:

  https://lahore.comsats.edu.pk/short-courses/course.aspx?cid=3.

- Or scan the QR code in the bottom right corner.

- Fee: Rs. 8000/-

Note

The poster and all the figures therein (including the CUI map) were generated using the R programming language and it's associated libraries.