



Machine Learning with R.

Learn to build predictive algorithms with R for social sciences and humanities

Aims

Learn to build predictive algorithms with R

Machine learning is the basis for groundbreaking developments and technologies in business and many branches of research, including social sciences and humanities. Would you like to know what makes machine learning so successful and how you can reap its benefits using the open programming language R?

In this intensive course, you will learn the fundamental principles of machine learning and how to apply them using R: from reading in data, to the application of various algorithms and their evaluation based on key performance measures. You will learn about the characteristics of popular algorithms such as regression, decision trees, and random forests. You will hear about recent developments, such as Deep Learning, and gain an overview over typical machine learning problems, such as regression, classification, and clustering, and discuss with us the risks and benefits of machine learning for society and business.

Structure

This course takes place from 9am to 6pm on two course days. Each day will contain a series of short lectures and examples to introduce you to new topics. The bulk of each day will be dedicated to hands-on exercises to help you 'learn by doing'. With two instructors on site dedicated time will be given for 1:1 feedback.

All course materials, tutorials, examples, exercises, and solutions will be available online for you to view at any time during and after the course. Find the instructors' past materials under the [See past materials](#) button on their webpage.

The workshop provides the essential tools to start machine learning in R. A brief overview of the topics addressed in the course:

1. Basics of R and machine learning
2. What is fitting
3. What is prediction
4. What is tuning
5. Why features are key



6. A map of algorithms
7. Looking ahead

Methods / Tools

Participants are requested to bring their own laptop with software installation rights. Basic knowledge of statistics is helpful, but not strictly necessary.

Detailed instructions concerning software installation and voluntary preparation is going to be provided prior to the course.

Target Group

Doctoral Candidates & Postdocs. Participants should possess basic knowledge of the R language. To ensure productive learning, participants are asked to brush up on their R skills either in self-study (materials will be provided after registration) or enroll in the upcoming basic course at the R bootcamp (costs: 200 EUR). If you are interested in participating, but you are unsure whether you meet the prerequisites for this course get in contact with the trainers or participate in this [Quiz](#).

About the Trainers

Dr. Dirk Wulff and MSc Markus Steiner are Swiss-based data scientists who have jointly spent over 20 years doing data science with R for both academic research and industry. Their passion is to help you learn the skills needed to discover and communicate insights from data and join the data revolution. <https://therbootcamp.github.io/en/>

Details

Organization Dr. J. Berenike Herrmann, DH Lab Basel berenike.herrmann@unibas.ch

Language English

Date & Time 2-day course: Wed 13 May -Thur 14 May, 9am-6pm

Location Basel – Alte Universität, Rheinsprung 9; Besprechung 003

Course Fees & Registration

This course is free of charge and for doctoral candidates and postdocs of the University of Basel only (min. 5, max. 20 participants). **Please send an email by 15 April 2020** to Dr. J. Berenike Herrmann: berenike.herrmann@unibas.ch