



Introduction to Machine Learning for Agricultural and Food Economics



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July23(Wed) @W420

July24(Thurs), July25(Fri), July28(Mon) @W402

— 13:15-16:30 (3rd & 4th period)

Course Overview

This course will be given in English, same contents provided in 2024

This intensive course, themed “Introduction to Machine Learning for Agricultural and Food Economics,” will be taught in person by Dr. Xiaohua Yu, Professor (with Chair) of Agricultural Economics in Developing and Transition Countries at the Department of Agricultural Economics and Rural Development, University of Goettingen, Germany.

Machine learning is changing the world from different dimensions, and agricultural and food economics is no exception. In contrast to econometrics of causal analysis, machine learning put more emphasis on prediction and pattern recognition. This course will briefly introduce machine learning algorithms for research of agricultural and food economics. It will help students to master basic techniques in programming Python for machine learning.

Course Objectives

This course will introduce basic algorithms in machine learning and apply them to research of agricultural and food economics. Specifically, we will introduce Python language, and how to use Python to realize feature engineering, linear regression, logit model, support vector machine, k-nearest neighbor, random forest, k-means clustering and neural network.

Schedule

**For more details, please check the syllabus on KULASIS.*

Lecture 1&2 : July23

Introduction to R (or Python) and application of machine learning in agricultural economics.

Plotting the data

Lecture 3&4 : July24

Linear regression and Feature Engineering

Logit model and support vector machine

Lecture 5&6 : July25

k-nearest neighbor and discrimination analysis

Classification and random forest

Lecture 7&8 : July28

Neural network (ANN, CNN, RNN, LSTM)

k-means clustering and unsupervised learning, Introduction to LLM

[Registration for Academic Credits]

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[Registration for Auditing]

Please email US your ID, Affiliation and Name.