Geographic Data Science for Sustainability

EC2U Autumn School — Jena, 9-13 Oct. 2023
Alexander Brenning, Friedrich Schiller University Jena

PROGRAM

Classes are scheduled to usually run from 9am to 5pm with a lunch break at 12:00-1:30pm and coffee breaks at around 10:30-10:45am and 3:00-3:30pm.

Mon 09 Oct.	**Getting started**
9:00am	Introduction and Overview Lightning talks by participants
10:45am	Using R as a GIS: Handling and visualizing geospatial data in R
1:30pm	Overview of machine-learning techniques
3:30pm	Intro & lab class landslide susceptibility modelling

Tue 10 Oct.	**Machine learning and model assessment**
9:00am	Overview of machine-learning techniques (cont'd)
10:45am	Lab class on landslide susceptibility modelling with ML models in R
1:30pm	Machine learning model assessment
3:30pm	Lab class on ML model assessment

Wed 11 Oct.	**Tuning and understanding ML models**
9:00am	Hyperparameter tuning (lecture + lab)
10:45am	Lab class on modelling housing conditions
1:30pm	ML model interpretation (lecture + lab)
3:30pm	ML modelling of urban hazards and health (C. Gonzales-Inca, Turku)
5:00pm	AI4Good webinar "Food security and AI: From data collection to early warning systems" (G. Martini, WFP)

Thu 12 Oct.	**Project assignment and advanced topics**
9:00am	Introduction to project assignment; lab class urban hazards and health
10:45am	Project assignment — group work
1:30pm	Lecture: Active learning and transfer learning for landslide susceptibility assessments (Z. Wang, Jena)
3:30pm	Project assignment—group work, help session Lightning presentations with preliminary results

Fri 13 Oct.	Field trip to the Dohlenstein landslide near Kahla Dinner in Jena

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