SWITCHengines for Data Science Courses

Efficient teaching and learning with flexible resources

"SWITCHengines enables location-independent teaching of big groups. Students can work on assignments at home and computational power and resources of machines can be adjusted according to the topic discussed in the class."

– Juan-Pablo Ortega, Prof. PhD. Faculty of Mathematics and Statistics, University of St. Gallen and Johannes Binswanger, Prof. PhD. Faculty of Business Economics and Public Policy, University of St. Gallen

Our program

The Data Science Fundamentals (DSF) program is designed for all Bachelor's degree students at the University of St. Gallen. The DSF gives the opportunity to acquire skills in data science that they need for responsible decision-making in today's data-driven world. In the DSF program, students learn the fundamentals of data handling and programming with a focus on machine learning and statistical analysis. The DSF program aims to bring up future professionals who are able to link together the world of management and that of technically-oriented data science. We promote a hands-on approach, team work, and business thinking in an environment of highly motivated students.

Our challenges

We started the Data Science Fundamentals program in 2017 and we have quickly learned from experience that we need to provide our students with a completely flexible working environment - both in terms of location, software and working tools we provide. With the previous solutions, we could not satisfactorily fulfill this requirement.

Experience with SWITCHengines

Efficient warm-up

The SWITCH solution allows us to teach in big groups (of more than 60 students). Students do not spend any time installing software during the first lecture. Everything just works out-of-the-box.

This saved time can be efficiently used to discuss new topics and learning materials. It is possible to configure one individual engine (install all the required software and data distribution system) and create copies of it for all students with only one click. This image can then be reused for next year's students.

Flexible working space

No software needs to be installed on laptops. Students can work on assignments at home with low risk of technical difficulties. Moreover, computational power and resources of machines can be adjusted according to the topic discussed in the class. Each student is provided with an individual engine. This minimizes the downtime risk in comparison to the set-up when many users are connected to one server.

Transparency of the costs

The costs of the SWITCH solution can be evaluated in advance. Furthermore, there exists the possibility of obtaining a discounted "educational" flavor, designed specifically for academic use. In case difficulties or questions arise, SWITCH staff is always readily available and helps to find the best individual solution in a timely manner.

Further information:

swit.ch/engines

Stories from the Swiss education and research communities

SWITCH