



AI-aided systematic reviewing (S12)

28 August – 1 September 2023

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Please note that the schedule is in Central European Summer Time.

Day	Time	Lectures	Description	Location
Monday	09:00 – 12.00	<i>Rens van de Schoot & Laura Hofstee</i>	<p>The first morning has three components:</p> <ol style="list-style-type: none"> We will explain the course aims, the program and introduce the people involved in the course. Describe the entire review process from A-Z and explain which parts will be discussed this week (pre-processing + screening with ASReview) Introduction to screening with active learning <p>We assume participants are familiar with PRISMA. If not, you are requested to read the information on the PRISMA website before the start of summer school (http://prisma-statement.org/).</p>	Via MS Teams
	13:00 – 16.00	<i>Jelle Teijema & Laura Hofstee</i>	<p>We start the afternoon with a demonstration of ASReview LAB followed by a do-it-yourself workshop so that you can experience the benefits of using active learning. ASReview simulation mode will be briefly introduced. During this workshop, there is a team ready if you need assistance. You can try out ASReview LAB by making use of one of our benchmark datasets. Another option is to try it out with your own dataset.</p> <p>You might want to install the software on your pc before the start of the summer school, see https://asreview.nl/download/, and in case of problems see the documentation (https://asreview.readthedocs.io/en/latest/troubleshooting.html). Installation questions can be asked on the discussion platform: https://github.com/asreview/asreview/discussions</p>	Via MS Teams
	15:00 – 16.00	<i>Jelle Teijema & Laura Hofstee</i>	Q&A session	Via MS Teams



Tuesday	09:00 – 12:00	<i>Felix Weijdema</i>	<p>The morning consists of interactive sessions about how to obtain the perfect dataset in a systematic way. We will discuss the basics of searching online databases, how to compose a search query and how to get the highest quality of data (e.g., complete abstracts). When making use of active learning, the size of the dataset can be different compared to a classical systematic review. How does this affect your search? Is there still a need to search multiple databases? We will also discuss pre-registration, the PRISMA checklist, and how to create a flow chart.</p> <p>To prepare you might want to read these discussions: https://github.com/asreview/asreview/discussions/975 https://github.com/asreview/asreview/discussions/979 https://github.com/asreview/asreview/discussions/557</p>	Via MS Teams
	13:00 – 15:00	<i>Felix Weijdema & Laura Hofstee</i>	<p>In the afternoon there is a do-it-yourself workshop in which you can create a dataset yourself, improve the quality of your dataset, and start screening in ASReview. We will explore ASReview datatools.</p>	Via MS Teams
	15:00 – 16:00	<i>Felix Weijdema & Laura Hofstee</i>	Q&A session	Via MS Teams

Wednesday	09:00 – 12:00	<i>Daniel Oberski</i>	<p>This morning you will enjoy an in-depth explanation of the different feature extraction techniques (TF-IDF, word2vec, sBert) and classifiers (e.g., Naive Bayes, SVM, neural nets) that can be used, the query strategies (certainty, uncertainty, random sampling) and balancing strategies which deal with the extremely sparse relevant papers in the dataset.</p> <p>Although this part of the course is technical, we consider it important to better understand how AI works if you want to use AI-aided tools (and also to answer questions of your supervisors, reviewers, peers and friends).</p> <p>To prepare you might want to read this blog post: https://asreview.nl/blog/active-learning-explained/</p>	Via MS Teams
	13:00 – 15:00	<i>Jelle Teijema & Laura Hofstee</i>	<p>We will start this afternoon with a demonstration of running simulations with ASReview, in which we show you how to run simulations yourself.</p> <p>This is followed by a do-it-yourself workshop in which you can experiment with the different models yourself. You will run simulations, look at some statistics and visualize the results.</p> <p>To prepare you might want to read the documentation about the simulation mode: https://asreview.readthedocs.io/en/latest/simulation_overview.html</p>	Via MS Teams
	15:00 – 16:00	<i>Jelle Teijema & Laura Hofstee</i>	Q&A session	Via MS Teams



Thursday	09:00 – 12:00	<i>Rens van de Schoot & Laura Hofstee</i>	<p>This morning we will do a thought experiment about (open) science. A scenario will be laid out. You will work on this in smaller groups. After working on the thought experiment, we will continue by sharing these thoughts with the rest of the group.</p> <p>Based on all your ideas from the thought experiment and the current ways of the scientific world, we will have an interactive discussion about open science.</p>	Via MS Teams
	13:15 -16.00	<i>Felix Weijdema & Laura Hofstee</i>	<p>Although sharing the search query and data is part of the PRISMA checklist, actually sharing the complete (meta)data underlying a systematic review, including all labelling decisions, is not standard. Therefore, we will discuss a data-sharing protocol, including the importance of persistent identifiers (DOIs), abstract retrieval and trusted repositories.</p> <p>Moreover, when using AI-aided tools it is not enough to make the search query and the meta-data FAIR (Findable, Accessible, Interoperable and Reusable), but the AI also makes decisions throughout the process which should be made FAIR. All settings of the AI and every iteration of the model can be stored and made human-readable. We will discuss the different choices that can be made.</p>	Via MS Teams

Friday	09:00 -10:30	<i>Felix Weijdema</i>	Q&A session about pre-processing data, PRISMA, data quality, etc.	Via MS Teams
	11:00 – 12:00	<i>Jelle Teijema & Rens van de Schoot & Laura Hofstee</i>	Q&A session about Installing, using and advance use of ASReview	Via MS Teams
	13:00 – 14:00	<i>Daniel Oberski & Jelle Teijema & Laura Hofstee</i>	Q&A session about Active Learning and the models	Via MS Teams
	14:30 – 16:00	<i>Rens van de Schoot & Jelle Teijema</i>	Last round of Q&A, discussion, and demonstrating what is possible with ASReview (server installation via Docker, one-click deployment in the cloud, command-line interface, API, Jupiter notebooks, and more!)	Via MS Teams