Tutorial D - Drift-diffusion model of decision making

Content

In this tutorial, students will learn the theory and practice behind the drift-diffusion model, as it is usually applied to explain behavior (choice, response time, confidence) in simple decision-making tasks. Participants will implement computational simulations to study the properties of the drift-diffusion model, and fit experimental data using MATLAB code provided by the instructor. We will also discuss some of the limitations of the model and common mistakes made when interpreting the model parameters.

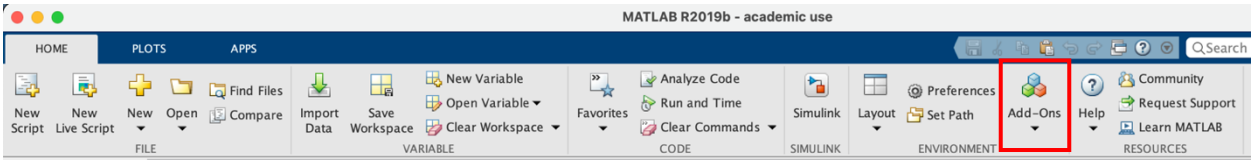
Installation guide

In the tutorial we will use MATLAB. Please make sure you install MATLAB and that you can open and run it https://www.mathworks.com/products/get-matlab.html

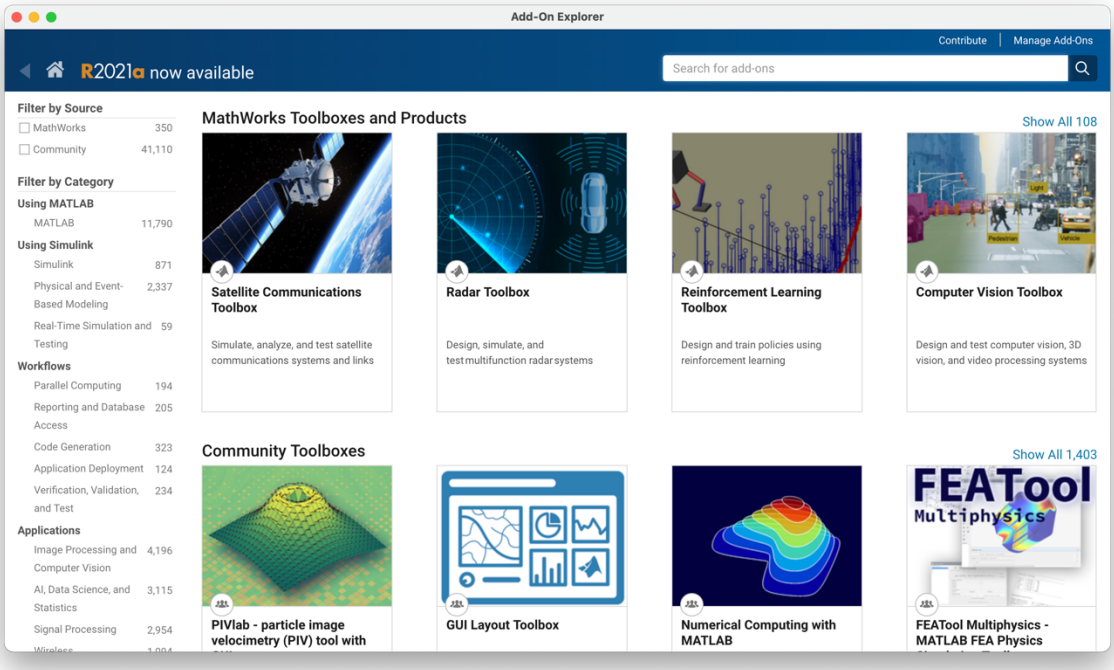
Next, you will need to install the following MATLAB Toolboxes:

- 'Statistics and Machine Learning Toolbox' (https://www.mathworks.com/products/statistics.html)
- 'Optimization Toolbox' (https://www.mathworks.com/products/optimization.html)

To install these Toolboxes, open MATLAB and open the "Add-Ons" tab



You should now see a new window similar to the following:



Search the toolboxes you need using the search bar in the upper right corner. You will immediately see whether these are installed. If not, click on the toolbox's name/thumbnail and follow the instructions to install it.

We will also use custom code provided by the instructor, which will be available at:
https://github.com/arielzylberberg/CompPsychCourse_Zurich2023
Please wait until day 6 of the course to download these files so you have the most up-to-date version.

Further support

If you have trouble getting to this point before the Practical Tutorial Session, please consult the **#tutorial-helpdesk channel on Discord**. You will be given access to the CPC discord workspace at the beginning of the course. Check if anyone has had the same issue and has managed to solve it and how. If no one else has encountered the same problem, post your question. We will be monitoring the channel and providing support. In addition, given the volume of attendees this year, we would be really grateful if you could assist us by answering queries on Discord yourself if you come across a problem, you know and have solved.

Tutors

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