

# Ph.D. Course –Advanced Topics in Machine Learning: Computational Tools for Machine Learning in Python

August 20-24, 2018, DTU Compute, Section for Cognitive Systems

## Course Program

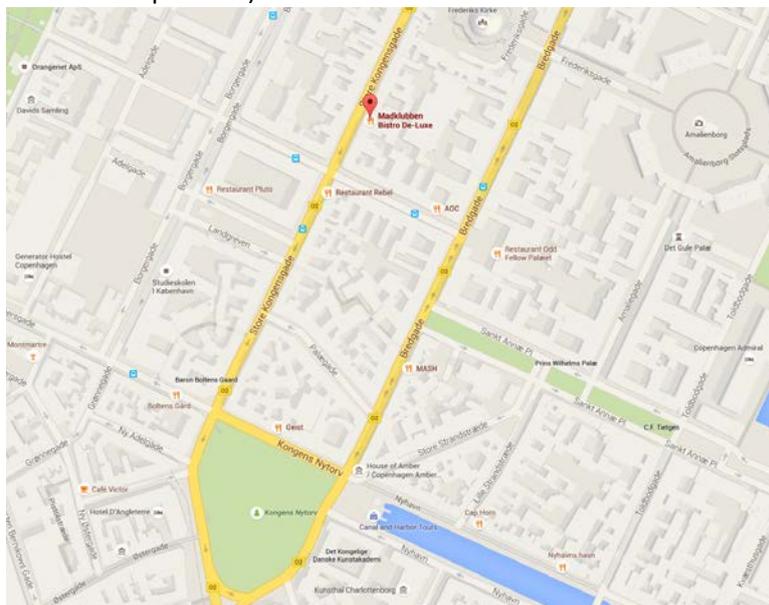
Lectures will take place in building 421 auditorium 73 Monday-Friday from 9:00 AM – 4:20 PM

([click here for a map of the DTU campus](#))

	Monday	Tuesday	Wednesday	Thursday	Friday
9:00-12:10 9:00 AM-12:10 AM	Philip Havemann Jørgensen <a href="#">Introduction to the Scikit-Learn Ecosystem</a>	Adam Paszke <a href="#">Introduction to PyTorch</a>	Aki Vehtari <a href="#">Introduction to PyStan</a>	Ole Winther <a href="#">An Introduction to Deep Learning with PyTorch</a>	Søren Hauberg <a href="#">Diffeomorphisms for Dummies and Augmentations for Awesommies</a>  Rasmus Bonnevie <a href="#">Stochastic Variational Inference</a>
12:10-13:10 12:10 AM-1:10 PM	Lunch	Lunch	Lunch	Lunch	Lunch
13:10-16:20 1:10 PM-4:20 PM	Franciszek Olaf Zdyb <a href="#">Introduction to auto-sklearn</a>	Adam Paszke <a href="#">Introduction to PyTorch</a>	Aki Vehtari <a href="#">Introduction to PyStan</a>	Ole Winther <a href="#">An Introduction to Deep Learning with PyTorch</a>	Closing remarks
			18:00 Dinner Madklubben (Store Kongensgade 66, Copenhagen)		

For details regarding transportation and accommodation, see also the practical information at the course homepage (<http://www.compute.dtu.dk/courses/02901>).

The course includes a dinner Wednesday evening at 6:00 pm at the restaurant Madklubben (<http://www.madklubben.dk/bistro-de-luxe/>) located in downtown Copenhagen at Store Kongensgade 66 close to Kongens Nytorv (see also the map below).



**Please bring your own laptop computer at the course!**

## INSTALLING THE PYTHON ENVIRONMENT

Since numerical functionality is supplied by third-party packages, and different packages provide different (possibly incompatible) functionality, it is important to install the right set of packages before and during the course. Instead of downloading the packages one at a time, we strongly recommend installing a Python distribution which will install both Python and most relevant numerical Python packages. We therefore strongly recommend installing the Anaconda Python distribution before coming to the course. To install Anaconda, go to <http://continuum.io/downloads> and download the most recent version for your operating system (as of writing, v5.2). If asked, ensure you select Python 3.6 in the Anaconda installer and accept the default settings.

Anaconda will amongst other things install:

- Spyder IDE. Spyder offers many tools characteristic for mature IDEs, and thus will enhance your programming experience. These include: context help, text completion, syntax highlighting, enhanced editor, integrated interactive console, project navigator and more. Working with Spyder is quite similar to Matlab if you are familiar with this environment. See: [code.google.com/p/spyderlib](http://code.google.com/p/spyderlib).
- iPython: Interactive console with a number of enhancements, see: [www.ipython.org](http://www.ipython.org)
- Jupyter: The Jupyter Notebook is a web application that allows you to create and share documents that contain live code, equations, visualizations and explanatory text. See <http://jupyter.org/>.
- NumPy and SciPy - Numerical Python (handles arrays and matrices in Python) and Scientific Python (scientific tools for signal processing, statistics, numerical methods): [www.scipy.org/Download\\_Matplotlib](http://www.scipy.org/Download_Matplotlib) - toolbox for plotting and data visualization: [matplotlib.sourceforge.net](http://matplotlib.sourceforge.net)

While Anaconda include many packages additional packages can be installed during the course by opening the "Conda Command Prompt" and use  
`easy_install <packagename>`