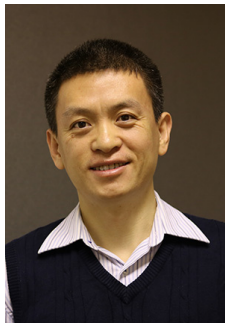# COM4509/6509 Machine Learning and Adaptive Intelligence

Department of Computer Science,
The University of Sheffield

Instructors

Dr. Mauricio A. Álvarez (Module leader)

Dr. Haiping Lu

Teaching assistants (I)

Areeb Sherwani (head TA)
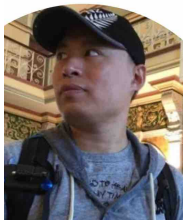

Lawrence Schobs

Thomas McDonald

Teaching assistants (II)

Magnus Ross

Benediktas Valys

Hongrui Shi

Ahmed Alajrami

Content of the module

Week	Starting	Subject	Lecturer
1	Sept 27	Intro. to ML and Review of Probability	MA
2	Oct 4	End-to-End machine learning	MA
3	Oct 11	Decision trees and ensemble methods	MA
4	Oct 18	Linear regression	MA
5	Oct 25	Automatic differentiation	MA
6	Nov 1	Logistic regression	HL
7	Nov 8	Neural networks	HL
8	Nov 15	Unsupervised learning	HL
9	Nov 22	Deep generative models	HL
10	Nov 29	Advanced applications of ML	HL

Materials available to you

❑ **Slides** accompanying the lectures, posted in Blackboard (BB).

❑ **Jupyter Notebook**. Each session will be accompanied by a Jupyter Notebook to illustrate practical aspects of the Lecture. Lab sessions will be based on these Notebooks.

❑ **Github repo for Labs**:
https://github.com/maalvarezl/MLAI-Labs

❑ **Exercise sheets**. Additional exercise sheets will be available with solutions released a week after.

❑ **Videolectures**. We recorded several videolectures to deliver the module last year. This will be offered as supplemental material. Beware that not all the content will be the same.

If you're at Sheffield ...

- ❑ **Face-2-face (f2f) Lectures and Labs**.
  - – Tuesdays, 10:00 am. A hour-long lecture in Diamond LT4.
  - – Wednesdays, 12:00 pm. A hour-long lab in Diamond PC Rooms 1 and 3.
  - – Fridays, 1:00 pm. A hour-long lecture in Diamond LT3.

- ❑ **Online synchronous sessions with the TAs**. We will offer two one-hour online help-desk sessions per week. The days and times will be confirmed during the first week.

- ❑ **Discussion board**. You can use the Discussion Board in Blackboard to ask questions (managed by the instructors).

What if you haven't arrived at Sheffield?

❑ **Encore.** Lectures are automatically recorded through Encore. You will be able to access these recordings just after each f2f lecture (accesible from BB).

❑ **Lab session.** In parallel to the the lab session that runs on Wednesdays 12 pm, there will be a BB collaborative link where you'll be able to receive help online.

❑ **Online synchronous sessions with the TAs**. We will offer two one-hour online help-desk sessions per week. The days and times will be confirmed during the first week.

❑ **Discussion board**. You can use the Discussion Board on BB to ask questions (managed by the instructors).

Office hours

- For the first five weeks, I'll be offering two office hours through BB (Collaborative link). The days and times will be confirmed during the first week.

We will use Blackboard for:

- ❏ Sharing course material.
- ❏ Office hours with the instructor.
- ❏ A discussion board.
    - – The discussion board IS for:
        - ► asking general questions about the contents of the lectures/labs.
        - ► *clarifications* about the assignments.
        - ► **if you know the answer to somebody else's question, please answer. Help your peers!**
    - – **When it comes to the assignment, the discussion board IS NOT for:**
        - ► asking us how to solve the assignment.
        - ► giving the solution to what is being asked in the assignments.
        - ► posting screenshots of your code and the errors in your code asking us to debug your code.
- ❏ Only email the Module leader if you have personal questions or issues. Otherwise, please use the discussion board.
- ❏ **Please, be professional and polite**.

Assessment

□ An assignment (% 50)
  – First part to be released on Friday, Nov 5, 3:00 pm.
  – Second part to be released on Friday, Nov 19, 3:00 pm.
  – Handle in Friday, Dec 3, 3:00 pm.

□ Exam (% 50), at some point between Jan 17 and Feb 4, 2022 (TBA).
  – The exercise sheets contain typical exam questions. We strongly
    encourage you to work on the exercise sheets on a weekly basis rather
    than waiting until the Exam to look at the solutions for those exercises.

Marking and Feedback

Taken from the Student Handbook:

"Your lecturer will mark your work within a reasonable period. A reasonable period is

- within a week, for short question sheets from small classes;
- within three working weeks, for larger pieces of work or work for very large classes (if this includes a vacation this is five weeks),"

Health & Safety

Please help to keep our community safe

Everyone should:

- **Wear a face covering indoors, especially in crowded places, when in close proximity to others (<1m), and when moving around buildings**
- **Take two rapid lateral flow tests per week (these are available for free from the University)**
- **Wash your hands regularly**
- **Follow any one-way systems that are in place**
- **Make space for each other when moving around**
- **Do not cluster in large groups**
- **Stay at home if you feel unwell or have Covid-19 symptoms**

Wash your hands

Wear a face covering

Keep your distance

https://www.sheffield.ac.uk/coronavirus/safety-guidance