CSCI 680: Deep Transfer Learning
Section 02 — Spring 2025

Instructor Information

Name: Ashley Gao
Office: McGlothlin-Street Hall Room 004
Email: ygao18@wm.edu
Office Hours: T/R: 11:00-12:30

Class Information

Dates: January 22, 2025 - May 13, 2025
Time: M/W: 14:00-15:20
Classroom: Small Physics Lab 235
Website: https://lindagaw.github.io/courses/CSCI680/CSCI680.html

Course Description

Deep Transfer Learning is an advanced graduate-level course that explores the intersection of deep learning and transfer learning techniques in the field of machine learning. Specifically, this course focuses on the two major advances in the field of deep transfer learning in recent years: unsupervised domain adaptation and domain generalization. This course equips students with the knowledge and practical skills necessary to develop deep learning algorithms generalizable to new data. It delves into the practical methodologies and cutting-edge research developments in the domain of deep transfer learning

Grading

The course grade is determined by the following components:

Homework	25%
Project	25%
Paper Presentation	15%
Final Exam	25%
Attendance	10%

Grade Scale

Final grades will be assigned according to the following scale. Grades may be curved at the instructor's discretion.
A >= 93% > A- >= 90% > B+ >= 87% > B >= 83% > B- >= 80% > C+ >= 77% > C >= 73% > C- >= 70% > D+ >= 67% > D >= 65% > D- >= 60% > F.

Textbook

There is no required textbook for this class.

Important Dates

- First day of classes; Add/drop period begins: January 22
- Last day to add/drop: January 31
- Spring Break: March 8-16
- Academic Withdrawal Deadline: March 24
- Final Exam: TBA

***Tentative* Schedule**

Week #	Dates	Topic
0	Jan 22	Intro to Deep Transfer Learning
1	Jan 27, Jan 29	Linear Models & Optimization
2	Feb 03, Feb 05	Linear Models & Optimization
3	Feb 10, Feb 12	Multilayer Perceptrons
4	Feb 17, Feb 19	Convolutional Neural Networks
5	Feb 24, Feb 26	Recurrent Neural Networks & Variations
6	Mar 03, Mar 05	Graph Neural Networks
7	Mar 10, Mar 12	Spring Break
8	Mar 17, Mar 19	Attention & Transformers
9	Mar 24, Mar 26	Paper Presentations on UDA $\times$ 4
10	Mar 31, Apr 02	Paper Presentations on UDA$\times$ 4
11	Apr 07, Apr 09	Paper Presentations on UDA$\times$ 4
12	Apr 14, Apr 16	Paper Presentations on DG$\times$ 4
13	Apr 21, Apr 23	Paper Presentations on DG$\times$ 4
14	Apr 28, Apr 30	Final Project Presentations
15	May 5, May 07	Final Project Presentations
16	May 12	No Class

This schedule is tentative and subject to change as the course progresses.

Attendance

You are expected to show up regularly to class unless you have a valid reason not to show up, with evidence such as a Doctor's Note. If you are unable to show up for any of the classes, please email me with the proof. Note that you shouldn't send medical documents to faculties - just the Doctor's Note is enough.

Throughout the semester, I will randomly select 4 classes to take attendance. 10% of your overall grade is allocated for attendance.

Exams

- Exams will be closed-book and held during class hours but you are allowed **a one-sided, US letter sized cheat sheet**. Focus will be placed on material introduced during the lecture. More details will be provided during the term.
- Missed exams will get a score of 0 except in the case of a valid medical reason or prior approval by the instructors.

Submission and Late Policy

- There will be 1 homework and 1 final project in this course. The assignments will be released on the course webpage. The homework will be collected on Blackboard. They are due at 23:59 (11:59 pm) at the due dates announced on the course website.
- We encourage typesetting using LATEX, but scans of handwritten solutions are also acceptable as long as they are legible.
- Assignments will be accepted up to 3 days late, but 10% will be deducted for each day late, rounded up to the nearest day. No credit will be given for assignments submitted after 3 day. Extensions will be granted only in special situations with valid proof (e.g. Doctor's note).

Academic Integrity

Presenting someone else's ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in our campus policies. Please read the Honor Code at William and Mary. If you violate this rule, you will receive an F as the final grade and be referred to the Honor's Council.

When you refer to some source codes on GitHub, please cite them with a URL in your report. Please do not copy the answers from the Internet directly without any references. You should rephrase your answers based on your own understanding.

Accomodations

William & Mary accommodates students with disabilities in accordance with federal laws and university policy. Any student who feels they may need an accommodation based on the impact of a learning, psychiatric, physical, or chronic health diagnosis should contact Student Accessibility Services staff at 757-221-2512 or at sas@wm.edu to determine if accommodations are warranted and to obtain an official letter of accommodation. For more information, please see www.wm.edu/sas.

As per the university's guidance, if you have a religious observance that conflicts with a deadline, please notify me as soon as possible so that I can attempt to make an appropriate adjustment.