CSC2523: Deep Learning in Computer Vision
Introduction

Sanja Fidler

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Instructor Info

- **Instructor:** Sanja Fidler (fidler@cs.toronto.edu)

- **Office:** 283B in Pratt

- **Office hours:** Send email for appointment
Course Information

- **Class time:** Tue at 9am-11am (??)
- **Location:** ES B149
- **Class Website:**
  
  http://www.cs.toronto.edu/~fidler/teaching/2015/CSC2523.html
- The class will use Piazza for **announcements** and **discussions**:
  
  piazza.com/utoronto.ca/winter2016/csc2523/home
- **Your grade will not depend on your participation on Piazza**
Good to know:

- Basics of Neural Networks

Otherwise you’ll need some reading
This course is a seminar course. We’ll be reading papers on diverse applications of NNs with focus on computer vision. Thus, how much you learn greatly depends on how prepared everyone comes to class.

Each student expected to write short reviews of two papers we’ll be reading each week, present a paper, and do a project.

**Grading**

- Participation (attendance, participation in discussions, reviews): 15%
- Presentation (presentation of papers in class): 25%
- Project (proposal, final report): 60%

**Project:**

- Topics will be posted sometime this week (you can also come up with your own topic)
- Need to hand in a *report* and do an oral *presentation*
- Can work *individually* or in *pairs*
### Term Work Dates

<table>
<thead>
<tr>
<th>Term Work</th>
<th>Due Date</th>
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</thead>
<tbody>
<tr>
<td>Reviews</td>
<td>one day before class (Mondays)</td>
</tr>
<tr>
<td>Project Proposal</td>
<td>Feb 22</td>
</tr>
<tr>
<td>Project Report</td>
<td>mid April</td>
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<tr>
<td>Project Presentation</td>
<td>mid April</td>
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- All dates are for 2016. ;)

Sanja Fidler  
CSC2523: Intro to Image Understanding
Lateness

Deadline  Reviews / project should be submitted by 11.59pm on the date they are due. Anything from 1 minute late to 24 hours will count as one late day.

Lateness  Each student will be given a total of 3 free late days. After you have used the 3 day budget, each late day will have a 10% penalty.

Discount  You have a budget of 1 missing review without penalty. You do not need to do reviews for the week you present.
Draft Schedule

We will have a few invited lectures

- Geoff Hinton on Frontiers of Deep Learning
- Raquel Urtasun: Deep Structured Models
- Yuri Burda: Variational Autoencoders
- Yukun Zhu: Convolutional Neural Networks
- Ryan Kiros: Recurrent Neural Networks and Neural Language Models
- Jimmy Ba: Neural Programming
- Elman Mansimov: Image Generation, Attention
- Renjie Liao: Highway and Residual Networks
We have students with NN expertise in class

- Shenlong Wang: Semantic Segmentation
- Mengye Ren: Question-Answering
- Emilio Parisotto: Reinforcement Learning
- Lluis Castrejon: Transfer Learning, or Knowledge Bases
- Kaustav Kundu: (RGB-D) Object Detection
- Min Bai: Optical Flow / Stereo
Topics

- Computer Vision will be our running application, but the class is not limited to this
- Possible applications:
  - Robotics
  - Graphics
  - NLP
  - AI
  - Social Networks
  - Computational Biology
  - Algorithms
- Theory?