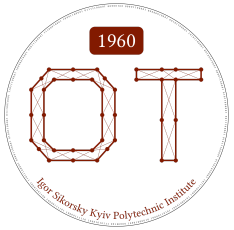


Computer Vision

Autumn 2024

Yuriy Kochura
iuriy.kochura@gmail.com
@y_kochura

Instructor

Lectures and practices :

- **Yuriy P. Kochura**
  - Department of Computer Engineering, FICS

Course Description

This course will introduce you to deep learning approaches that are used in cutting-edge research in computer vision and provide practical experience:

- Using of neural networks (fully connected and convolutional layers, forward and backward propagation, activation functions, ...)
- Training of neural networks (initialization, optimization, regularization, model choice, ...)

Course Learning Outcomes

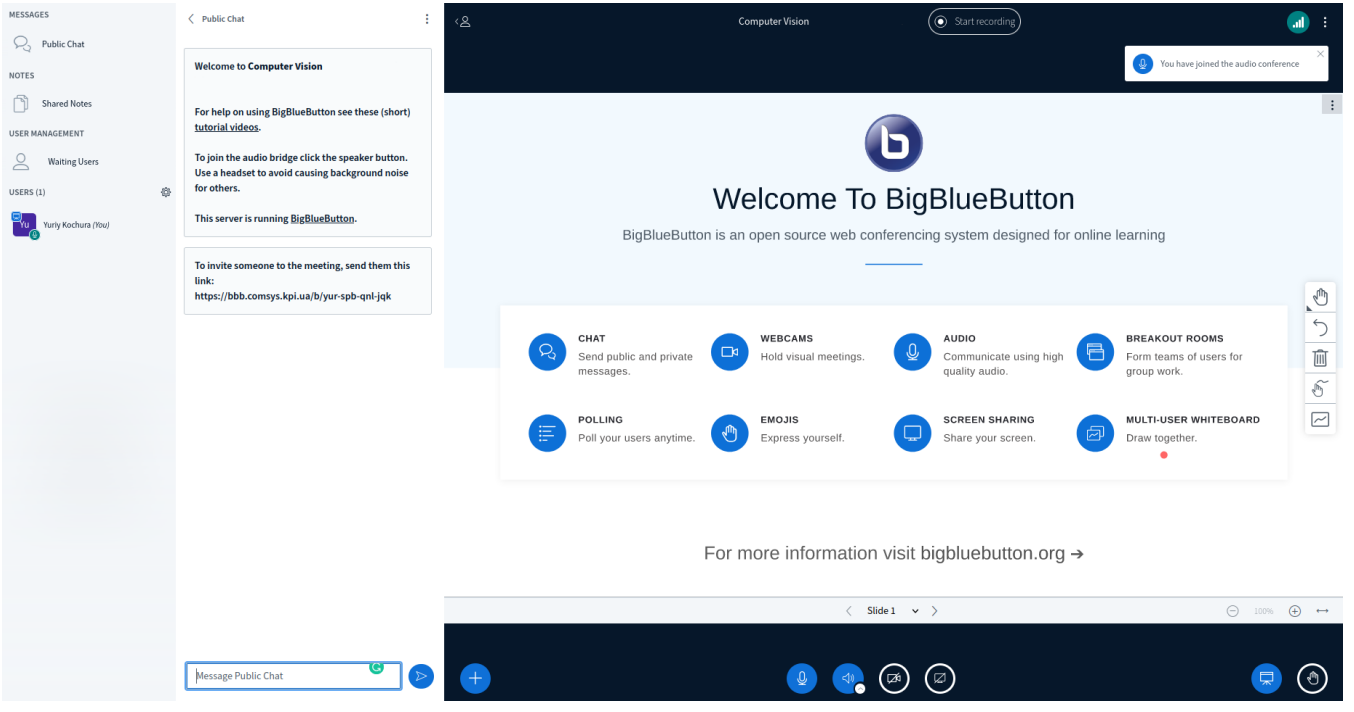
1. Identify problems where computer vision techniques are applicable.
2. Apply CV techniques for some classical problems.

Prerequisites

1. **Mathematics**: Knowledge of and ability to use calculus, analytical geometry, linear algebra and probability theory.
2. **Programming**: Ability to program in Python.

Classroom

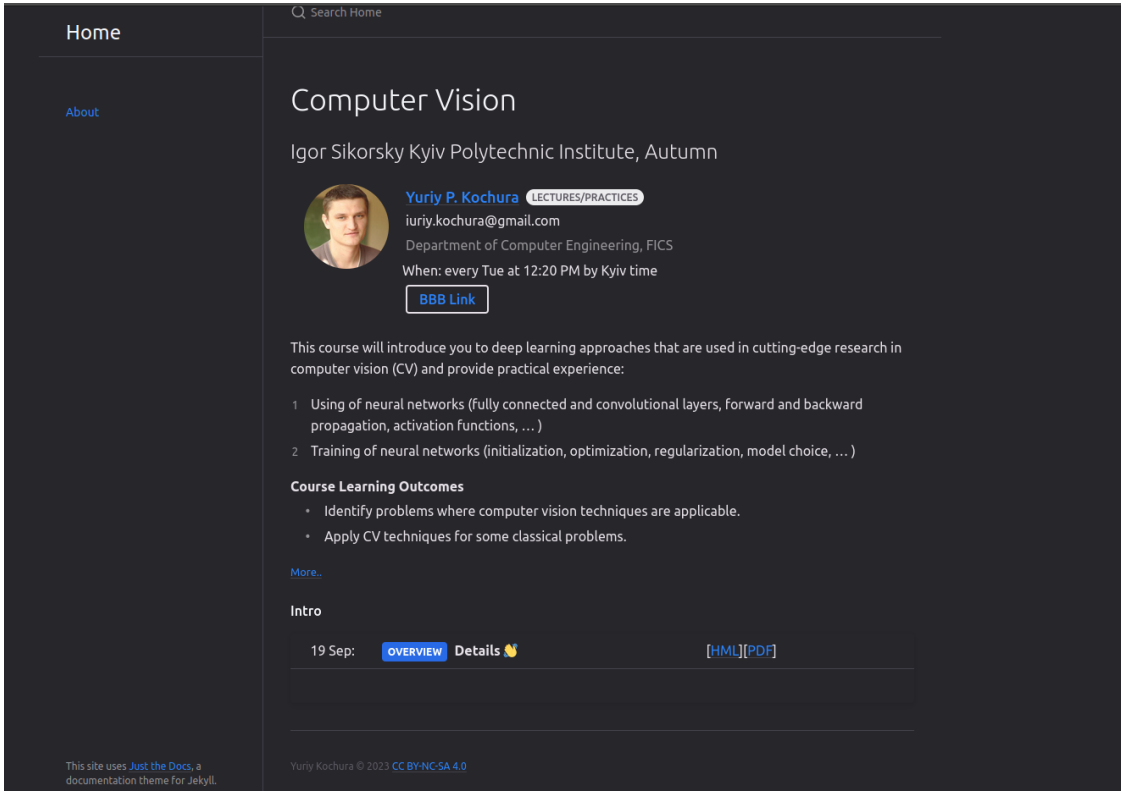
This semester the course takes place online (virtual in-class lectures) on **BigBlueButton** at https://bbb.ugrid.org/b/yur-spb-qnl-jqk



Course hub

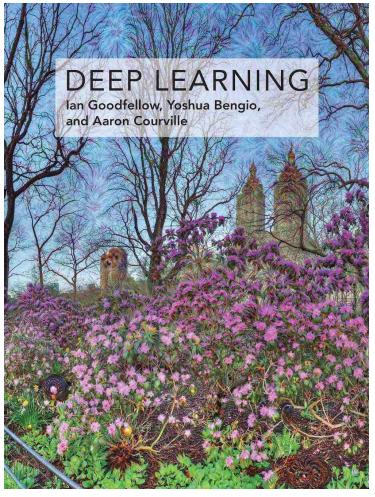
All important information about the course will available on the course web page https://courses-cs-kpi.github.io/cv-24fall/

- Slides and materials
- Homeworks

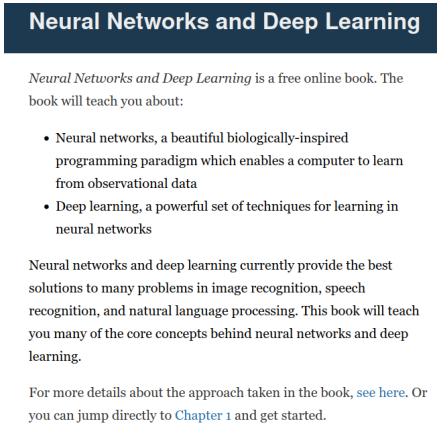


Textbooks

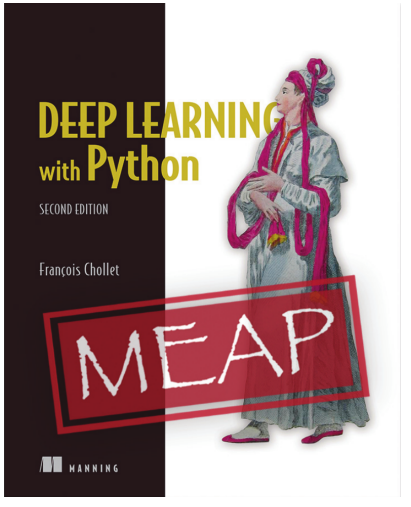
There is no required textbook for this class, but I would like to recommend some books for a more comprehensive introduction with advanced topics in deep learning and computer vision or get another perspective on the lecture material:



Free



Free



Freely previewing

Announcements & Discussions

All announcements and discussions will take place in Telegram (let me know if you need to be added)

- Discuss materials and ask your questions offline in the group.
- Don't be shy!

Discussions&Announcements

Assignments

Exercises to get you started with deep learning techniques for computer vision tasks.

Grading

- 60% Programming assignments (15% each)
- 40% Graded test

Note! The requisition of admission to semester control (Graded test) is

$$\boxed{\text{Programming assignments} \geq 36\%}$$

Let's start!