

# Computer Vision - 2025

## Lecture 1. Intro

Lectures by Alexei Kornaev <sup>1,2,3</sup>

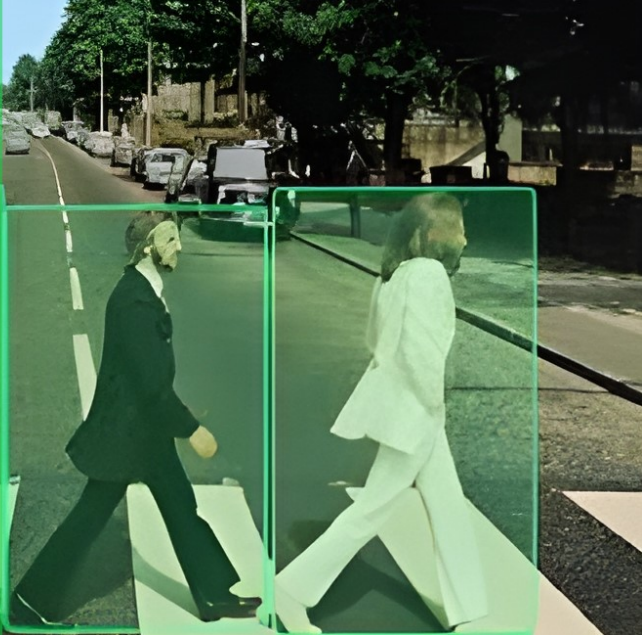
Practical sessions by Kirill Yakovlev <sup>2</sup>

<sup>1</sup>AI Institute, Innopolis University (IU), Innopolis

<sup>2</sup>Robotics & CV Master's Program, IU, Innopolis

<sup>3</sup>RC for AI, National RC for Oncology, Moscow

January 9, 2025



# Outline

CV-2025

A.Kornaev,  
K.Yakovlev

Looks of  
environments

Looks of list  
environments

Looks of block  
environments

Colors

Using the  
theme

Customized  
Commands

Commands for  
mathematical  
notation

Other Commands

## ① Looks of environments

Looks of list environments

Looks of block environments

## ② Colors

## ③ Using the theme

## ④ Customized Commands

Commands for mathematical notation

Other Commands

CV-2025

A.Kornaev,  
K.Yakovlev

Looks of  
environments

Looks of list  
environments

Looks of block  
environments

Colors

Using the  
theme

Customized  
Commands

Commands for  
mathematical  
notation

Other Commands

# Section 1. Looks of environments

# Looks of list environments

CV-2025

A.Kornaev,  
K.Yakovlev

Looks of  
environments

Looks of list  
environments

Looks of block  
environments

Colors

Using the  
theme

Customized  
Commands

Commands for  
mathematical  
notation

Other Commands

- Important point
  - Not really an important point, but let's pretend it is
- Command `\arrowitem` is a shortcut for `\item[$\longrightarrow$]`

- ① Breathe in
- ② Breathe out

UM Beamer theme looks simple and nice

# Looks of block environments

CV-2025

A.Kornaev,  
K.Yakovlev

Looks of  
environments

Looks of list  
environments

Looks of block  
environments

Colors

Using the  
theme

Customized  
Commands

Commands for  
mathematical  
notation

Other Commands

Making things stand out

This is an example of citation Author (2023).

Colors

Official UM colors are available, see the next slide

CV-2025

A.Kornaev,  
K.Yakovlev

Looks of  
environments

Looks of list  
environments

Looks of block  
environments

Colors

Using the  
theme

Customized  
Commands

Commands for  
mathematical  
notation

Other Commands

## Section 2. Colors

# Colors

CV-2025

A.Kornaev,  
K.Yakovlev

Looks of  
environments

Looks of list  
environments

Looks of block  
environments

Colors

Using the  
theme

Customized  
Commands

Commands for  
mathematical  
notation

Other Commands

The UM Beamer theme defines the following official Maastricht University colors:

UMdarkblue: RGB 0,28,61

UMlightblue: RGB 0,162,219

UMred: RGB 174,11,18

UMorange: RGB 243,148,37

UMorangered: RGB 232,78,16

→ Command `\alert()` uses **UMred** for highlighting

CV-2025

A.Kornaev,  
K.Yakovlev

Looks of  
environments

Looks of list  
environments

Looks of block  
environments

Colors

Using the  
theme

Customized  
Commands

Commands for  
mathematical  
notation

Other Commands

## Section 3. Using the theme



# Using the theme

CV-2025

A.Kornaev,  
K.Yakovlev

Looks of  
environments

Looks of list  
environments

Looks of block  
environments

Colors

Using the  
theme

Customized  
Commands

Commands for  
mathematical  
notation

Other Commands

- Include `\usetheme{UM}` in the preamble
- Use `\UMtitleframe` to generate the title page

## Theme options:

- `navigation`: Display a navigation bar on the left hand side
- `sectiontitles`: Display a slide with the section title at the start of each section

**Example:** `\usetheme[navigation, sectiontitles]{UM}`

CV-2025

A.Kornaev,  
K.Yakovlev

Looks of  
environments

Looks of list  
environments

Looks of block  
environments

Colors

Using the  
theme

Customized  
Commands

Commands for  
mathematical  
notation

Other Commands

## Section 4. Customized Commands

# Commands for mathematical notation

CV-2025

A.Kornaev,  
K.Yakovlev

Looks of  
environments

Looks of list  
environments

Looks of block  
environments

Colors

Using the  
theme

Customized  
Commands

Commands for  
mathematical  
notation

Other Commands

For mathematical notation inside math environments, the following commands are available:

- `\mat{}`: For formatting matrices, e.g.,  $\mathbf{X}$
- `\vect{}`: For formatting vectors, e.g.,  $\mathbf{x}$
- `\obs{}`: For formatting observations, e.g.,  $\mathbf{x}$

# Other commands provided by the theme

CV-2025

A.Kornaev,  
K.Yakovlev

Looks of  
environments

Looks of list  
environments

Looks of block  
environments

Colors

Using the  
theme

Customized  
Commands

Commands for  
mathematical  
notation

Other Commands

For writing about software, the following commands are available:

- `\proglang{}`: For highlighting programming languages, e.g., R  
(has no effect if you already use a sans serif font)
- `\pkg{}`: For highlighting software packages, e.g., robmed
- `\code{}`: For highlighting functions, e.g., `test_mediation()`

→ Special characters currently need to be escaped within those commands,  
e.g., `\_` for underscores

# Bibliography

CV-2025

A.Kornaev,  
K.Yakovlev

Looks of  
environments

Looks of list  
environments

Looks of block  
environments

Author, S. (2023). Sample title. The Quarterly journal of Sample, 118(4):11–13.

Colors

Using the  
theme

Customized  
Commands

Commands for  
mathematical  
notation

Other Commands