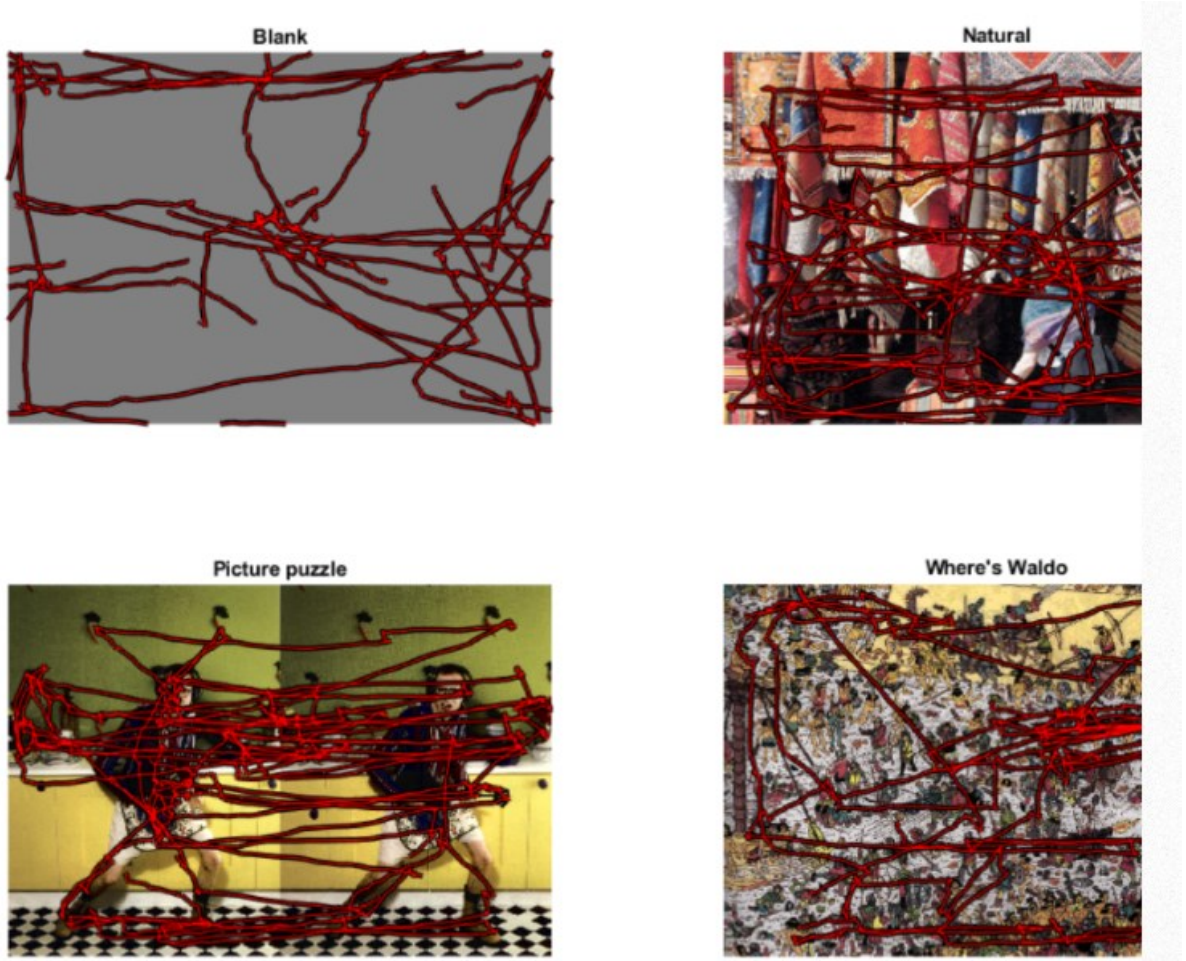
Etra challenge

Filip Děchtěrenko

ETRA Challenge

- ETRA – Eye tracking research and applications
- 4 tasks



Data description

- 8 subjects
- Data format
  - Subject identifier.
  - Task (Fixation or free viewing).
  - Visual scene type (Blank, Natural, Picture puzzle, Where's Waldo).
  - Visual scene image file.
  - 45 s of binocular ere movement data.
  - For Picture puzzle and where's Waldo trials the locations of the clicks where subjects indicated differences or Waldo characters.

Subject	TrialNumb	Task	Stimulus	Image	ClickH_1	ClickH_2	ClickH_3	ClickH_4	ClickH_5	ClickH_6	ClickH_7	ClickH_8	C
9	1	FreeViewing	Puzzle	PUZZLE\puz013.bmp	484	411	297	292	143	276	464	NaN	N
9	2	Fixation	Natural	NATURAL\nat011.bmp	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	N
9	3	Fixation	Natural	NATURAL\nat012.bmp	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	N
9	4	FreeViewing	Blank	GREY\grey.ctx	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	N
9	5	FreeViewing	Puzzle	PUZZLE\puz015.bmp	341	454	408	149	275	373	374	NaN	N
9	6	FreeViewing	Natural	NATURAL\nat013.bmp	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	N
9	7	Fixation	Blank	GREY\grey.ctx	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	N
9	8	FreeViewing	Natural	NATURAL\nat015.bmp	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	N
9	9	FreeViewing	Waldo	WALDO\wal015.bmp	207	NaN	NaN	NaN	NaN	NaN	NaN	NaN	N
9	10	FreeViewing	Waldo	WALDO\wal013.bmp	596	465	472	456	446	84	427	385	

Individual recordings

- Puzzle

Time	LXpix	LYpix	RXpix	RYpix	LXhref	LYhref	RXhref	RYhref	LP	RP
10646066	411.94	332.85	422.34	416.1	310	1545	421	2455	988	1233
10646068	411.86	331.65	421.22	417.6	309	1532	409	2471	996	1236
10646070	409.06	334.8	418.9	417.825	279	1566	384	2474	995	1240
10646072	407.14	333.825	416.5	416.925	259	1555	358	2464	999	1242
10646074	403.94	332.775	414.5	418.95	224	1544	336	2486	1001	1241
10646076	402.26	334.125	412.66	421.35	207	1559	317	2513	1002	1244
10646078	401.62	335.175	412.66	421.125	200	1571	317	2510	994	1251
10646080	403.7	334.275	412.74	420.225	223	1561	318	2501	1004	1251

- L – left, R – right; Ignore*href columns; LP/RP pupil size

Your task

- Load data (R/python/Jamovi)
  - You can use readxl package to load data in R
- Test some hypotheses (1-2 based on the complexity) that you find interesting (for example):
  - Do eye movement behavior change when participants were free viewing the blank screen or when viewing natural images?
  - Is number of fixations in each stimuli consistent between participants?
  - Do pupil size change, when difference in puzzle is found? Or when Waldo is found?
  - Can we predict task based on the data pattern (machine learning)?
- Write report 2 A4 long including data description, hypotheses and results
- Consult your hypotheses with me before the task