

## Course preview

Artificial intelligence (AI) is all around us, transforming the way we see the world and the world sees us. Sometimes, we barely notice, sometimes, the results of AI can be very impressive, though sometimes so impressively bad, that Hito Steyrl and others started to talk about “Artificial Stupidity”. But almost always, the actual procedures of AI remain mysterious, locked away in a black box.

In this module, we will look at a recent wave of artistic and theoretical work that tries to open this black box, creating a language and an aesthetics for critical engagement. In particular, we will look at image recognition AI, what the artist Trevor Paglen calls “predatory vision” and the data scientist Joy Buolamwini calls the “coded gaze”, referring to gender and racial biases in these systems.

We will also use some web-based image recognition systems to get a first-hand impression of the capacities of these technologies as tools for artistic investigation.

## Course logistics

**Date:** Week 17, April 20-24, 2020

**Time:** 10:00 - 17:00

The course takes place online:

Connect through the Zoom app, ID: 7890997001

or through a web browser

<https://zhdk.zoom.us/j/7890997001>

The password is sent to you by email.

Course requirements:

- active participation in group activity
- active individual work (via pad)
- fictional short story, 2-3 pages, to be handed until Sunday, April 26. ([Upload to Paul](#))

## Course Materials

**Pad:** [http://pad.vmk.zhdk.ch/p/art\\_ai\\_imagerecognition](http://pad.vmk.zhdk.ch/p/art_ai_imagerecognition)

## Monday Morning

### Similarity & Difference

- !Mediengruppe Bitnik [SAME SAME. WATCHING ALGORITHMS - CABARET VOLTAIRE EDITION](#) 2015

- Mario Klingemann & Simon Doury [X Degrees of Separation](#), 2018

## How Image Recognition works, technically

- [A friendly introduction to Convolutional Neural Networks and Image Recognition](#), 2017, 32 Min.
- [Activation Atlas](#), 2019
- [Understanding image models and predictions using an Activation Atlas](#), Google AI Adventures, 2019, 7:49

## Joy Buolamwini The coded gaze

- [AI, Ain't I A Woman?](#), 2018, 3:33
- <https://www.notflawless.ai>, see stories there,
- <http://gendershades.org/overview.html>
- [How I am fighting Bias in Algorithms](#). TEDx Talk, 2017
- [Safe Face Pledge](#)
- [Algorithmic Justice League](#)

Another form of Bias:

- !Mediengruppe Bitnik! [Dada. State of the Reference](#), 2017

Further Reading:

- Eubanks, Virginia. Automating Inequality: How High-Tech Tools Profile, Police, and Punish the Poor. First Edition. New York, NY: St. Martin's Press, 2017.
- Noble, Safiya Umoja. Algorithms of Oppression: How Search Engines Reinforce Racism. New York: New York University Press, 2018

## Monday Afternoon

- Graham, Mark, Rob Kitchin, Shannon Mattern, and Joe Shaw. How to Run a City like Amazon, and Other Fables, 2019. [issu.com](#), [PDF](#)
- Select one story, read it. Write short summary in the pad and how the story relates to the actual company, add your name to the entry
- short research on image recognition. Select one news story that you find interesting. Enter the link to the pad and write why you selected this story. Add your name to the entry

## Tuesday Morning

### Adam Harvey [Art projects about privacy, computer vision, and surveillance](#)

- Rejecting the automated gaze: [Camoflash](#), 2008-10 [CV Dazzle](#), 2010-2014, [Stealth Wear](#), 2012-13, [Hyper Face](#), 2017-18
- Exploring data sets: [MegaPixels: Faces Machine Learning City](#) Interview with Adam Harvey, 2018
- Research: The unstoppable [Microsoft Celeb \(MS-Celeb-1M\) Data Set](#)

- [From 1 to 100 pixels](#), Adam Harvey, TEDxVilnius, 2017, 18:29
- Tero Karras, Samuli Laine, Timo Aila. [This Persons doesn't exist](#)

More anti-image recognition / urban camouflage fashion projects

- [Adversarial fashion](#)
- [A++ Fashion x Computational Creativity](#)
- [Urban Armor](#)
- [GUIDE TO ANTI-SURVEILLANCE FASHION](#)
- [Wearable Face Projector](#)
- [URME Surveillance](#)
- [Anti-Surveillance Coat](#), 2016

### ClearView AI

- [The Secretive Company That Might End Privacy as We Know It](#). NYT, 20.01.2020
- [I Got My File From Clearview AI, and It Freaked Me Out](#). 24.03.2020
- [Clearview AI Lured Rich Investors by Letting Them Rummage Around in Its Creepy Face Recognition App](#), 05.03.2020
- [The Far-Right Helped Create The World's Most Powerful Facial Recognition Technology](#) Huffington Post, 07.04.2020

## Afternoon Tuesday

Trevor Paglen

Is Photography Over?, 4 Parts, Fotomuseum Winterthur, 03.2014

1. [Is Photography Over?](#)
2. [Seeing Machines](#)
3. [Scripts](#)
4. [Geographies of Photography](#)

- Read these four short parts. Select four sentences that you find interesting and copy them to the pad. Please organize them in the pad according to the section.
- Select one news story or artwork and add it to the pad. Write a short note, why this story/Work is interesting.

## Wednesday Morning

Trevor Paglen & Cate Crawford

- [Datafication of Science](#) Lecture at HKW, Jan 12, 2019. 32 Min
- [|Discussion with Kate Crawford, Trevor Paglen, Felix Stalder](#) HKW, Jan 12, 2019, 14Min
- Kate Crawford and Trevor Paglen, [AI. The Politics of Images in Machine Learning Training Sets](#)
- [Fondazione Prada: Training Humans](#), Fondazione Prada, Venice, 12 Sep 2019 – 24 Feb 2020 [Review](#), we-make-money-not-art.com, Dec. 16.2019
- Paglen, Trevor. ["Invisible Images \(Your Pictures Are Looking at You\)."](#) The New Inquiry (blog),

December 8, 2016

- [Paul Eckman: Seven Universal Facial Expressions](#)
- [Why our facial expressions don't reflect our feelings](#), BBC, 10.05.2018

## Wednesday Afternoon

Research and select the aspect of image recognition, based either on the news story or on art work, on which you want to base your fictional story. Make a first sketch of your story.

## Thursday: Morning

Guest Marco Spitzbarth talks about how he uses image recognition on his platform. About hidden processes, algorithms, and black boxes. Questions he stumbled over on the way, his research, and technics he uses. The presentation will be held online.

- [Ayumu, short memory game](#)
- [hidden code in net art by jodi](#)
- [klick and ink with Tattookurier](#)
- [platform to draw and analize, 1milliondrawings](#)
- [Alpha Go, full documentary](#)
- [Quick draw, A.I. experiment](#)

### Further Material

- Hito Steyerl. [A Sea of Data: Apophenia and Pattern \(Mis-\)Recognition](#) e-flux, Journal #72 - April 2016
- Hito Steyerl. [The Language of Broken Glass](#) Talk, HKW, Jan 12, 2019, 26 Min.

## Thursday Afternoon

Down the rabbit hole, let's find some edge cases, anomalies, strange or misleading output.

1. Write in one or two sentences what you were looking for, e.g: How does the output differs if we use the same picture and tweak some colors?
2. Make some screenshots of your results.
3. Write some words about your research.

- [image recognition Google](#)
- [image recognition Microsoft](#)
- [image recognition imagga](#)

### The human labor hidden in automation

- [The Art of Google Books](#)

- Benjamin Shaykin [Google Hands](#), 2009

## Andrew Norman Wilson

- [Workers Leaving the Googleplex](#), 2011, 11 min
- [Scan Ops](#), 2012-ongoing

[The Cleaners](#), 2017, 92 Min

## Friday Morning

Collection of News Stories and ideas of short stories

## Friday Afternoon

Individual writing of short stories

Possibility of individual mentoring.

From:

<https://wiki.zhdk.ch/fs/> - **Felix Stalder, Prof. DfA**

Permanent link:

[https://wiki.zhdk.ch/fs/doku.php?id=art\\_and\\_ai\\_-\\_how\\_machines\\_think\\_and\\_see\\_i](https://wiki.zhdk.ch/fs/doku.php?id=art_and_ai_-_how_machines_think_and_see_i)

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