"ANTI-SURVEILLANCE" JUMPER

@ottiliaw

ABOUT

Some disclaimers to begin with!

- All the credits for the design of the original pattern - Hyperface - belongs to Adam Harvey (https://ahprojects.com/)
- This is not a traditional knitting pattern, and more of a general guide of the process
- This *is not actually going to allow you to avoid surveillance of any kind* :) the facial detection algorithm was intended to trick is deprecated, but it surprisingly does trick some face swap/edit apps.

The base for this project is Hyperface. It is a prototype for a "false-face computer vision camouflage pattern", and was created by Adam Harvey in 2016. I figured that no one has probably ever knitted it (because why would anyone try that?), so I set out to start making it to a pattern.

It was not very fun to knit, because it was *not meant to be knitted*. There's no nice repetitive pattern, so you always have to keep track of where you are in your pattern. I was very close to giving up, and ended up finishing it only because I ended up doing a talk about it at EMF Camp - https://www.emfcamp.org/.

INSTRUCTIONS

Suggested needles: 4.5 mm/ 80-100 cm circular needles, 4.5 mm double pointed needles
Materials: 300 g white DK yarn + 200 g black DK yarn(Stocking Stitch Tension: 22 stitches, 28 rows to 10cm on 4mm needles)

*NOTE
There's two charts, the below pattern follows chart 1 which is specifically size M, but if you want to adapt it, chart 2 is the way to go.

Body (size M):
Cast on 212 stitches with white yarn on circular needles (if you have smaller ones like 3.5mm ones, and can be bothered, I recommend that to begin with).

Row 1: *p 2, k 2*, repeat from * to * until the end of the row.

Continue to knit in the round with 2x2 ribbing for about 5 cm.

Join black yarn, and start following the diagram below. Be careful to weave in long strands of black yarn, so you don't end up with long sections of free hanging yarn.

The armholes are steeked later on, so continue the pattern in the rounds until it reaches row 55 of the pattern. Cast off 10 (grey squares) on spare yarn.

Cast on 10 new steek stitches to bridge the gap, and continue following the chart.

Continue along the pattern, creating a stripe where the steek will later be cut.

Once you've reached a length that suits you (for me it was until row 90, because I wanted it quite cropped), it is time for the neckline. Continue only with white yarn for 26 st at the front, and place 50 stitches on spare yarn. Continue around until you reach around to the dropped stitches.
Now work back and forth in stockinette stitches for 5 rows, creating the back piece.

After 5 rows of stockinette, cast off the first 26 stitches. Move past the front of the collar (the 50 stitches on the spare yarn), and cast off 52 stitches. Put the next 50 stitches (back off collar) on spare yarn. Cast of remaining stitches.

Sow together shoulder sections on each side of the collar.

Neckline:
Pick up approx 104 sts round neck on double pointed needles size 4.5 (or 3.5 mm if you have them) and knit *p 2, k 2*, repeat from * to * until the end of the row in white.
Continue to knit in the round with 1x1 ribbing for about 2 cm. Do a stretchy cast off.

Steek armholes (search for a video tutorial - it can be a bit daunting, but it will be okay!)

Sleeves
The sleeves are done in the round. Pick up 62 stitches (2 for every 3 rows) and then 2 between armpit stitches.

Make up a random black and white blob pattern - it doesn't really matter how it looks as long as it's vaguely similar to the main pattern. Once you have reached your ideal arm length - 5 cm, knit *p 2, k 2*, repeat from * to * until the end of the row in white. Do a stretchy cast off.

Knit the other sleeve identically.

Sew in all loose strands, and block jumper. Et voila!

TESTING IT

There are various ways you can test and see if it tricks the haarcascades facial detection algorithms.

I tested it using:
OpenCV haarcascades - https://docs.opencv.org/3.4/d2/d99/tutorial_js_face_detection.html
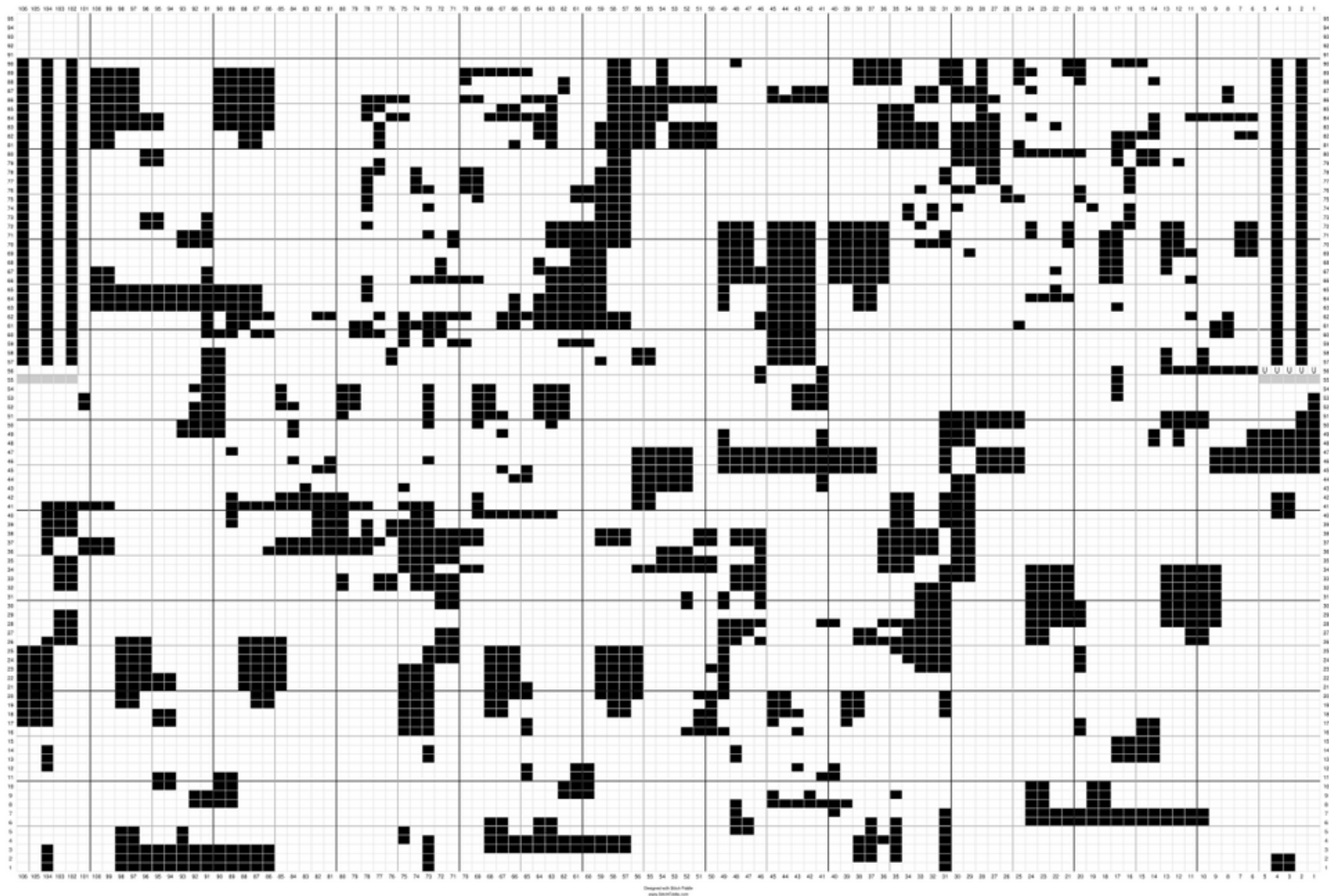**Vframe** - https://github.com/vframeio/vframe

Command used to detect faces in the images:
vf pipe open -i ../input.jpg haardetect —overlaps 3 —min-size 20 draw —no-label-conf save-image -o output/

Command used to detect faces in the video:
vf pipe open -i input.mp4 detect -m ssdface draw —no-label-conf save-video -o output.mp4

CHART 1

CHART 2